THE RAILWAY GAZETTE
A Journal of Management, Engineering and Operation
INCORPORATING
The Railway Engineer · TRANSPORT · The Railway News
The Railway Times · Herapath's Railway Journal · RAILWAY RECORD.
RAILWAYS ILLUSTRATED · ESTABLISHED 1835 · THE RAILWAY OFFICIAL GAZETTE

PUBLISHED EVERY FRIDAY
AT
33, TOTHILL STREET, WESTMINSTER, LONDON, S.W.1

Telegraphic Address: "TRAZETTE PARL., LONDON"
Telephone No.: WHITEHALL 9233 (6 lines)

Annual subscription payable in advance and postage free:
British Isles and Abroad .....£2 5s. 0d.
Single Copies .....One Shilling

Registered at the General Post Office, London, as a Newspaper

VOL. 75 NO. 7 FRIDAY, AUGUST 15, 1941

CONTENTS

	PAGE
Editorials	153
Publications Received	153
The Scrap Heap	157
Overseas Railway Affairs	158
An Interesting Problem for the Breakdown Gang	159
High Speed and Punctuality	161
New Pacific Type Locomotive for Iraq	162
A Northampton-Euston Train	168
Railway News Section	171
Personal	171
Transport Services and the War	173
Stock Market and Table	180

NOTICE TO SUBSCRIBERS

Consequent on further paper rationing, new subscribers cannot be accepted until further notice. Any applications will be put on a waiting list which will be dealt with in rotation in replacement of existing subscribers who do not renew their subscriptions.

Annual subscriptions are payable in advance and subscribers are advised to pay their renewal accounts before the expiration of the existing subscription, as the dispatch of copies will in all cases be stopped on expiration

DISPATCH OF THE "RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE *possesses the necessary permit and machinery for such dispatch, and any reader desirous of arranging for copies to be delivered to an agent or correspondent overseas should place the order with us together with the necessary delivery instructions.*

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas, as they are stopped under the provisions of Statutory Rules & Orders No. 1190 *of* 1940, *and No.* 359 *of* 1941

TO CALLERS AND TELEPHONERS

Until further notice our office hours are:—
Mondays to Fridays - 9.30 *a.m. till* 5.0 *p.m.*
The office is closed on Saturdays

Wartime Control of Railways

DURING the past few days the Minister of War Transport has made noteworthy changes in the personnel responsible for the wartime control of British railways. On August 5, the President of the Board of Trade stated in the House of Commons that Mr. Gilbert S. Szlumper had been asked to give his whole time to advise the Board on transport whether by rail, sea, or canal and Mr. Szlumper has joined the Board of Trade; he was a Member of the Railway Executive Committee, an office from which he has retired. Under the Railway Control Order of September 1, 1939, the R.E.C. was appointed the agent of the Minister of Transport for the purpose of giving directions under the Order whereby the Minister took control of all the principal railways in Great Britain. Sir Ralph Wedgwood, who had retired as Chief General Manager of the L.N.E.R. in March, 1939, was appointed whole-time Chairman and has since attended daily at the headquarters of the R.E.C. Closer liaison between the Ministry and the R.E.C. was established on March 3, 1941, when Mr. Szlumper, who had become Railway Control Officer, was appointed to the R.E.C. Now, Sir Ralph Wedgwood has retired and is succeeded as Chairman by Sir Alan Anderson, who is best known for his shipping connections, but who also has railway associations as a Director since 1923 of the L.M.S.R. (a position he now relinquishes), although he has not been identified prominently with railway management. Sir James Milne, General Manager of the G.W.R., becomes Deputy Chairman of the R.E.C., in the work of which he has always played an important part. Co-ordination between R.E.C. and Ministry of War Transport is being intensified by Sir Alan's further appointment as Controller of Railways in the Ministry of War Transport. In fact, these various changes may all be regarded as steps in the declared policy of Lord Leathers to secure greater co-ordination between all branches of transport and between the various bodies exercising the Government control.

Location of Industry Restrictions

The Board of Trade has made the Location of Industry (Restriction) Order, 1941 (S.R. & O. 1941, No. 1,100), with effect from July 25. This Order provides that it is necessary to obtain a Board of Trade licence before beginning to carry on a trade or business at any factory or warehouse with a superficial area of 3,000 ft. or more, or further, to carry on at any premises of similar size, whatever their previous use, a business involving production or storage. The Order does not apply to shops or new buildings, and a general licence is being issued providing for the use of premises for temporary storage purposes without a specific licence. Special consideration will be given to applications by undertakings which have been dispossessed, by enemy action or through other causes beyond their control, to use alternative premises in the immediate vicinity of their former place of business. The Order has been made as a corollary to the measures which have been taken by the Board of Trade to co-ordinate the requirements of all Government departments for factory and storage accommodation. It has been decided to extend this control to the use of premises by private undertakings because increased demands for factory and storage space have made it necessary to prevent the uncontrolled use of existing accommodation which might be required for essential purposes. It is held, too, that uncontrolled movement of industry may have the effect of confusing and disorganising the transport and labour supply positions in the areas affected, to the detriment of vital war production.

Canadian Railway Revenues

The combined gross earnings of the two great Canadian railway systems in the first six months of this year aggregated $241,555,488, an increase of $52,487,937, or 27·9 per cent. compared with the first half of 1940, and were at the highest level for the first half of any year since 1929, when combined gross earnings totalled $254,318,820. Compared with the corresponding period of 1939, gross revenue for the first six

months of 1941 was higher by fully $92,066,000 or 61·5 per cent. An increase of $1,181,000, or 25 per cent. was reported by the Canadian Pacific Railway Company in gross traffic earnings for the nine days ended June 30 at $5,910,000 compared with $4,729,000 in the like year ago period. This brought gross earnings for the month of June to $18,497,000, compared with $14,192,000 a year ago, according to figures compiled from weekly earnings reports. Gross revenue for the first six months of the year totalled $99,840,000, compared with $75,386,000, and was equal to an increase of $24,454,000 or 32·4 per cent. The Canadian National Railways reported an advance of $1,292,972, or 19·7 per cent., in gross earnings for the final nine days of June at $7,843,112, compared with $6,550,140 a year ago. This brought gross earnings for the month of June to a total of $25,042,352, compared with $22,359,937 in the like month last year. For the first half of this year gross revenue was $141,715,488, compared with $113,681,551 in 1940, an increase of $28,033,937, or 24·6 per cent. In the first half of 1940 the combined gross revenues of the two systems totalled $189,067,551, an increase of 26·5 per cent. over the like 1939 figure of $149,489,374 ; the latter of course did not reflect any of the wartime impetus to industry and transport.

A World Record in Wartime

It is a matter for remark that despite two years of war conditions, and such particularly difficult conditions as those of the present war, by far the longest daily non-stop run made in the world with steam propulsion is still in Great Britain. The train concerned is the L.M.S.R. Night Scot, which runs the 230·4 miles non-stop from Motherwell to Crewe. It is true that the schedule only calls for an average speed of 43·2 m.p.h., but this is a very heavy train, at times made up to ten 12-wheel first class sleeping cars, three 8-wheel third sleepers, and two brakes—an 80-axle formation of which the weight is about 600 tons. This load has also to be lifted in succession over Beattock and Shap summits, 1,015 and 915 ft. above the sea, with an intermediate drop practically to sea level north of Carlisle. A table on p. 173 shows that at present 66 daily runs of more than 100 miles in length between stops are scheduled in the working timetables of British railways; of these the L.M.S.R. is responsible for the lion's share with 42 daily, which include perishable trains, such as the nightly fish train from Aberdeen to Broad Street, which south of Carlisle makes 141·0 and 162·5-mile runs in succession. Such a non-stop programme as this helps considerably in the relief of congestion at stations, and is one way in which the L.M.S.R. has effected so remarkable an improvement in its wartime punctuality.

Northampton-Euston Service Improvement

Appreciation of a recent notable improvement in their travelling facilities is being expressed by business and residential passengers making frequent—in many cases daily—journeys on the Northampton—Euston line of the L.M.S.R. One of the most popular trains in this service is the 8.5 a.m. from Northampton, calling at seven intermediate stations and due at Euston, 67 miles, via Blisworth, at 9.58 a.m. This train, for long made up of a variety of stock, including some non-corridor coaches, mostly of the older types, has now been replaced by a set train of the centre gangway type, vestibuled throughout and comprised of vehicles of the modern flush-sided pattern, which imparts to the complete train a uniformly smooth and clean exterior appearance. The interior appointments both in the first and third class accord with the company's standard practice for the newest coaching stock, and the riding qualities, lighting and other features leave so little to be desired that even nap-playing travellers from the outer districts find their need of card tables anticipated. A noteworthy advantage is that the time occupied in the collection and examination of tickets at Watford has, as a consequence of the present assembly of the train, been very considerably reduced, thus providing an important aid to the observance of punctuality. The train, of which illustrations and particulars appear on page 168, works back to Northampton as the 6.6 p.m. stopping train from Euston.

Fenchurch Street Station

After the replacement in 1849 of cable traction by steam haulage on the London & Blackwall Railway, and the opening of the Stepney to Bow link,Fenchurch Street (to the centenary of which we referred last week) gradually became the principal terminal for the Great Eastern Suburban services. In 1865 the interests of that railway had become so important that the London & Blackwall was taken over lock, stock, and barrel on a 999-year lease, and became part of the L.N.E.R. in 1923 at grouping. The interests of the London, Tilbury & Southend Railway were very closely bound up with the G.E.R. Blackwall line, and in 1876 the two companies entered into an agreement by which the L.T. & S.R. (subsequently taken over by the Midland Railway, and thus now part of the L.M.S.R.) was granted running powers over the Blackwall line into Fenchurch Street. With its fine arched roof which covered 4 of the 5 platforms, all of which are above street level, Fenchurch Street would rank as a notable station building were it not largely hidden by the angular approach and the presence of nearby city buildings. The main entrance to the station was from a verandah covered pavement, through a number of doors leading to the booking hall. On each side of the booking office staircases lead to the platforms and concourse at high level, where are also refreshment rooms, waiting rooms, left luggage offices, etc. A separate entrance with booking hall on street level in John Street gave access to Nos. 4 and 5 platforms. Thus Fenchurch Street remained until 1935, when at a cost of approximately £250,000, practically the whole of the station was remodelled. The booking offices were amalgamated, the parcels offices brought down to street level, and many other improvements effected. Until September, 1939, the number of trains dealt with daily at Fenchurch Street amounted to 182 in and 182 out. Nowadays, due to war conditions, these numbers have been reduced considerably.

Wayside Locomotive Service in America

In the United States even more than elsewhere, the spread of ultra-high-speed passenger and increasingly heavy and fast freight traffic, is dependent largely upon corresponding improvements effected by the civil engineers, in the form of strengthening of track and bridges, easing of curvature and grades, better drainage and stability of formation, and more rapid locomotive service. The last-named has, perhaps, received less attention in the technical press than the other improvements. Nowadays, long, fast non-stop runs call for combined coaling, sanding, cinder handling, and watering plants at many intermediate stations, where all these operations can be carried out simultaneously. Two such plants between Chicago and Denver, for instance, are estimated to save one hour on every fast freight train as compared with older facilities, 30 min. at each. When tenders carried 7,000 to 12,000 gal. of water a water-column delivery of 1,500 gal. a min. was considered satisfactory, but with tender capacities of 24,000 gal. and upwards, much higher rates of delivery are demanded, and at several watering stations this has been raised to 4,500 gal. or more a min., with a consequent saving of as much as 10 min. on every stop for water. Nor is the question of more dependable supplies of purer water overlooked, and treatment of locomotive feed water, is continuously becoming more wide-spread. One railway, indeed, claims to have reduced its engine failures from 1 in 5,000 miles to 1 in 10,000,000 miles since 1920 by improved water conditions, according to our contemporary the *Railway Age*.

A Plea for Engine Head Boards

Engine head boards were once a familiar sight on many railways. Before the last war one company had over a dozen different designs, and the elaboration of their arrangements was most complicated. Without advocating a return to such a condition, we think that some lines which have abolished headboards might with advantage adopt them again, at least for certain services. Unlighted lamps, themselves as black as the dirty locomotives carrying them, are

a poor indication for a signalman, responsible for re-describing goods trains forward to different destinations, to recognise at a distance in bad weather. Conversations with signalmen have convinced us that in quite a number of instances they would find their work lightened if boards were re-introduced. The old Great Central plan of painting one side of the lamps white and setting them sideways in the irons by day, although not as good as well-proportioned boards, was better than the black lamps now seen on so many engines. Incidentally, those lines on which boards are still used might with advantage see that they are cleaned more often.

Streamlined Pacifics for Baghdad Railway

The new oil-fired, streamlined Pacific locomotives recently built in this country for service on the standard gauge section of the Iraqi State Railways—described and illustrated on pages 162-167—embody several features of special interest, and combine examples of British, American, and Continental practice in their design. The particular duties for which they are intended are referred to in the article describing them, but the route over which they will work is of unusual interest. To the International Sleeping Car Company chief credit is due for sponsoring and equipping the famous Taurus Express, run in extension of the Orient Express and extended gradually from Haidar Pacha (on the Bosphorus, opposite Istanbul), to Baghdad with the final completion of the Baghdad Railway on July 17, 1940. This international express enters Iraq at Tel Kotchek and runs thence on Wednesdays, Fridays, and Sundays, *via* Mosul to the Iraqi capital, 25 hr. 10 min. being allowed for the 330·6 miles, including a stop of nearly 2 hr. at Mosul. Northwards, the Taurus Express leaves Baghdad West on Fridays, Mondays, and Wednesdays, and reaches Tel Kotchek in 23½ hr. It was to work these trains that the Pacifics were primarily ordered. The Tel Kotchek-Mosul section (74·3 miles) was opened in 1939, and apart from some heavy cuttings near Mosul is of no special interest. The Mosul-Baiji section (121·9 miles) was the last link in the chain forming the Baghdad Railway to be completed last year, and—as described and illustrated in our issue of September 13 last—entailed 30 miles of heavy construction works. The Baiji-Samarra section (60 miles) was completed during the last war in extension of the German-built Baghdad-Samarra section (74·4 miles) captured by the British in April, 1917.

Devils on Horseback

The daily press has poured forth vituperation as a result of great crowds which insisted on the inclusion of a holiday in the August Bank Holiday week-end. There has been a disposition to label the railways as the villains of the piece—one might almost be led to believe that energetic railway passenger canvassers forcibly entered the dwellings of reluctant potential travellers and dragged them, screaming, to congest platforms and rolling stock which, in the wickedness of their hearts, the railway managements were determined at all costs to use over the week-end. Among other newspapers, the *Daily Herald* has waxed roundly indignant at the facilities which the railways had to provide, but it rather gave the game away when it admitted that at Torquay " some visitors even arrived on horseback." That seems to show that the determination to make holiday was the public's rather than the railways'. We would not estimate whether the bodily buffetings and physical weariness which the intrepid British holiday maker bears so lightly are greater as a result of jostling on teeming platforms, fighting into crowded trains, and standing—or being stood upon—for long journeys in a swaying coach, or visiting Torquay on horseback. The seat and variety of discomfort may vary, but in our present democracy the individual is still free to choose how and where he will suffer. In the outcry which has been raised against the railways for burning much-needed coal, one may be forgiven the reflection that corn also is a precious commodity, and might be as well used to assist a hen to provide the breakfast egg of precious memory as to sustain a horse on a holiday tour.

Government and Railways in the U.S.A.

IN the United States the railways are experiencing conditions which in many ways are similar to those through which the British railway companies have been passing for some time. The American railways, it is true, do not suffer from the disadvantage of operating in a country which is actively engaged in actual warfare, but the magnitude of that nation's defence programme is throwing an ever-increasing strain on the transport system. In a recent issue of our American contemporary, the *Railway Age*, editorial reference is made to some of these matters as affecting the railways in the United States, and many will discern a striking similarity between conditions on that and this side of the Atlantic. There as here one of the most important problems facing managements is that of wagon supplies. The railways are handling much more traffic than they have ever handled before at this time of year. The figures of the number of wagons loaded every week are used freely as a measure of the amount of service the railways are rendering, but statistics showing the number of tons carried for each mile are a much better measure because they indicate not only the tonnage moved, but also the distance. Owing largely to the withdrawal of steamships from coastwise service the railways are having thrown on them a great quantity of freight, the handling of which requires wagons to be moved extraordinarily long distances.

The ton-mileage figures for 1941, as they become available, when compared with the loading figures, disclose that the total services being rendered by the railways are substantially larger than indicated by the latter group of statistics. At present ton-mileage figures are available only for the first quarter of 1941; they show that, whereas in that quarter the increase in wagon loadings was 15 per cent. over the corresponding period of 1940, the similar increase in ton miles was 19 per cent. and also was 36 per cent. and 48 per cent., respectively, over the similar figures for 1939 and 1938. This difference between wagon loadings and ton-miles is increasing, but if it is assumed that it was relatively the same in the first quarter and in May last—which month showed the largest increase in wagon loadings—an impressive conclusion may be drawn. The increase in wagon loadings in May compared with May, 1940, was 25·3 per cent. On the basis of the same ratio of wagon loadings to ton miles in May as in the first quarter of 1941, the number of ton miles in May was 39,000,000,000, an increase of 30 per cent. over May, 1940; that is, equal to an increase of 67 per cent. over May, 1939, and of 81 per cent. over May, 1938. If this estimate is correct, the railways rendered more freight service in May, 1941, than in any previous May in their entire history—the previous record for that month was in 1929 and was less than 38,000,000,000 ton-miles. The largest ton-mileage reported in any month was not quite 45,000,000,000 in October, 1928. It would therefore be necessary for the railways to increase freight transport for May, 1941, by only some 16 per cent. to surpass all previous monthly records.

So far as can be seen, the supply of wagons will be adequate to meet demands during the rest of the year, but not by so wide a margin that unwarranted demands for transport arising from fears of a shortage might not cause an apparent scarcity, and the greatest efficiency in wagon user on the part of both the railways and consignors is desirable to minimise this. It is recognised that both the railways and their customers have a common interest in forestalling Government operation of the railways and that any alleged " breakdown " by the railways might be seized on as an excuse for demanding that the lines should be taken over by the Government. The efficiency of wagon usage is now greater than it was in October, 1939, and is capable of further improvement. In securing the maximum net ton-miles from each wagon, such factors as over-supplying of wagons to consignors, light loading of merchandise wagons, delayed shunting, and detention of wagons in the handling of company material, are believed to show room for considerable improvement. Consignors could aid materially, not only in securing heavier loads for each wagon, and promoting loading and unloading, but also by releasing the railways from the obligation to provide excessive numbers of wagons for interplant handling and for prospective loads.

Of those who entertain the intention of manufacturing

XUM

socialistic propaganda out of any tightness in wagon supplies which might develop as an excuse for Government operation of the railways, the *Railway Age* declares that there are Government officials who know very well that it is only through the coercive power of the Government that they would be entrusted with positions of power and responsibility. Once the emergency is past and with bureaucracy shrunken to anything like a normal size, these officials would have to go back to their previous melancholy businesses. Their only hope of retaining their present power and prerogative lies in fastening State socialism on the country so that continued jobs might be found for them in Washington, where their ability has never had to be put to the test of genuine effectiveness. It is urged that consignors and railways should discuss the wagon situation candidly and make the best plans of which they are capable to assure the maximum use of wagon supply. They should also make clear to the intelligent public the underlying facts about private as against Government operation of railways; how and in what way the latter would entail enormous efforts, but could bring no benefits not obtainable under private ownership by honest co-operation on the part of Government officials.

An Industrial General Staff?

DURING the progress of the war the problems of industry have necessarily become intensified, and there can be little doubt that this position will be continued until the cessation of hostilities. After that time, indeed, it is more than likely that the solution of industrial problems may become equally acute, although they will be of a very different kind from those which now have to be faced. In recent months there has been a good deal of disquiet in various quarters as to the manner in which British industry, as a whole, is operating. Reports of under-capacity operation of steel works, and the apparent disability to achieve fulfilment of the Government coal production programme are two important factors making for apprehension. It would seem, indeed, that there is room for considerable improvement in the direction and co-ordination of effort in British industry as a whole. There is a growing realisation also, all too apparent to those actively engaged in industry, that the manner in which business matters are becoming more and more intertwined with the ubiquitous Civil Service is having a most unfortunate effect and causing waste of effort, an all too frequent feature in our business life. A successful policy depends upon the ability to make rapid and effective decisions. It is becoming a commonplace to say that this war will be won in the factories of Great Britain. Many feel that the time has now arrived when steps should be taken not only to ensure, but to speed up that victory.

In order the better to ensure efficient direction and continuity of effort in the various branches of industry, there is much to be said for an organisation at the top which would be specifically charged with this duty. What is envisaged by some may best be described as an Industrial General Staff, the sole aim of which would be to make the best and most efficient use of the industrial fabric and its ramifications with the life of the nation. The chairman of such a body would have to be an outstanding industrialist who should divest himself from his normal business interests during his occupation of office, and essential qualifications for the position should be drive and initiative and an ability not only to make decisions, but to enforce recognition of them. All members of the Industrial General Staff should be full-time practical businessmen withdrawn from their industries, and devoting the whole of their energies to the task before them. They should, in their knowledge and experience, be representative of such important factors in national effort as machine tools, factories, the great basic industries including transport, and, last but not least, the consumers of the country. It would be necessary, too, if the scheme were to be successful, for the fighting services to be represented in order that the demands they make on the industrial output of the country might not only receive due priority, but could be co-ordinated into the industrial organisation as a whole. It must be recognised in responsible quarters that the manpower of the nation is strictly limited, and it is idle to contend that manpower-hours which are lost at the present time can ever be regained. This is a matter of which it would appear the seriousness is not sufficiently appreciated even at this late stage in the war. A body of this kind should be capable of devising, and working to, an intelligent plan and of abandoning the system which at the moment seems all too often to result in transferring the scarcity of materials and manpower from one section of industry to another. Once a clear-cut long-term policy was put into operation the necessary adjustments to meet varying conditions could be made without involving serious dislocation to the whole. During the present war the work that this body could do would be of the utmost value, and it should not be overlooked that its period of usefulness would long outlive the present struggle. With the return of peace it will be necessary, if the chaos which has all too often followed wars in the past is to be avoided, to plan well ahead, and only if the productive capacity of the nation is capable of skilled and unified direction will it be possible for the utmost benefit to be derived from the immensity of the potential resources which will then suddenly be made available as a result of the cessation of wartime demands.

PUBLICATIONS RECEIVED

Springs : A Miscellany. Vol I. (Vol. II to follow). By T. H. Sanders. London : The Locomotive Publishing Co. Ltd., 88, Horseferry Road, Westminster, S.W.1. 8¾ in. × 5½ in. × 1¼ in. 457 pp. Illustrated. Price (2 Vols.) 50s. (not sold separately).—What dare one criticise in the works of an author who, with the utmost *sang-froid*, writes a trilogy of four volumes, and begins a highly-technical work on springs with a dissertation on toxophily and a picture of the shooting (with bow and arrow) of Saint Sebastian? Obviously nothing—especially as "Sanders on Springs" is at least as well known in the railway world as "Cavendish on Whist" in the better days of St. James's Street. One of the progenitors of the present volume ("Laminated Springs") came 18 years ago, and the other ("Springs & Suspension") in 1930. Their offspring is a twin, of which the volume under review is the elder; the second is promised shortly. Between them they are to cover that amazing amount of knowledge on springs of all types which T. H. S. found impossible to cram into the 1,308 pages of his first two volumes.

Taken as a whole railway spring and suspension design lags far behind the standard of cylinder and boiler design in this country and most others with excellent permanent way. But whether the Sanders Saga will effect any improvement here we are pessimists enough to doubt, for the classic on laminated springs was published almost 20 years ago, yet within this year we have seen a new English locomotive with springs having a deflection of 0·38 in. per ton, a resiliency of 265 in.-lb. per lb. of weight, and a load-carrying capacity almost equal to the weight actually supported by two springs.

This new volume fills up the gaps in the two older books. In particular, considerable attention is given to helical steel springs, and five chapters bring the published data up to the level of that already devoted to laminated types. There can be no question that some such authoritative work has been necessary, for many firms and draughtsmen still have charts, curves, and formulæ of their own which seem to be based on nothing belonging to this century, and, lacking better concentrated information, continue to use them. Volute springs come within the scope of the book and here, as with the rest of the contents, the author by no means confines himself to axle suspension springs, but includes drawbar and buffing springs, safety valve springs, automobile applications and the like, a breadth of treatment which is particularly welcome in the sections on the design and application of rubber, friction and washer springs.

If there is anything like a descriptive chapter in the book it is that on load-testing machines, but another on spring testing is the reverse, and incidentally presents a number of salient points on

spring operation and requirements which should be at the finger tips of all motive power and rolling stock designers, as well as the more basic testing data for the test shop staff, consulting engineers, and their inspectors. The book abounds in *obiter dicta* on fundamentals of rolling stock design, one of the best of which is the quotation from C. J. Holland " The springs we use now on freight cars give back practically all the energy we put into them. What we need is a spring that will absorb some of the energy so that it will return less than is put into it." Realisation of this, and certain other advantages, by Dean, Churchward, and Collett, has led to the perpetuation of volute springs on the Great Western Railway.

Finally, the author has taken the opportunity of bringing up to date the published information on laminated springs, and in this connection we would draw attention to the data on the asymmetrical laminated bearing springs of the L.P.T.B. deep-level tube stock. In a technical sense, these are probably the most interesting and advanced bearing springs applied to English stock for years.—B.R.

Workshop Calculations. — There has recently been issued, on behalf of the Ministry of Labour & National Service and the Board of Education, a handy pocket-size booklet, forming a beginner's guide to workshop calculations. The book contains 40 pages of graduated exercises, answers, diagrams, and worked examples. The elementary stages lead on to the more involved calculations to be found in workshop practice, and worked examples and ample explanations are given at every stage. The handbook, a copy of which has reached us from the Public Relations Department of the Ministry, should prove to be of invaluable aid to workers making their first contact with the engineering industry. A copy is supplied free to every trainee at a Government training centre, emergency or auxiliary training establishment. The price to the general public is 4d., post free, from H.M. Stationery Office, Kingsway, London, W.C.2.

THE SCRAP HEAP

SANS SOUCI

An 83-year-old motorist, Treffley Soucie, failed to hear an approaching train when he drove across the railway track at Manteno, Illinois. The train smashed into the car, wrecking it, but Soucie was unhurt.

* * *

The British Nation can be counted upon to carry through to victory any struggle that it once enters upon, no matter how long . . . or however great the sacrifice . . and . . even though the actual military equipment at hand may be utterly inadequate when compared with that of other nations. — *Adolf Hitler in " Mein Kampf."*

* * *

" There are doubtless good reasons why railway policy should forbid passengers altogether. But we in Britain are not so brusque or brutal as to issue total vetoes of that kind. What we say is ' Don't travel. But, if you do travel, we'll learn you '"—*From " The Holiday at Home " by Ivor Brown in " The Manchester Guardian "*

* * *

TRAIN BEATS TELEGRAM

The L.N.E.R. has received from a livestock dealer at Worksop a letter in which the following remarks appear : " I think the railways have done wonderful work in the difficult times we are living in. I had three wagons of sheep loaded at Enfield at 9 a.m. A telegram was handed in at 9.30 a.m. same morning telling me that the sheep had been loaded. The following morning at 7.45 a.m. Checkerhouse station (near Retford) phoned to say that they had three wagons of sheep for me ; *two hours later I got the telegram.*"

* * *

Daily newspaper reports of the capture of Karl Drueke and Werner Waelti, two enemy spies who were executed on August 6, paid tribute to assistance rendered by the staff at a Banffshire railway station. It was stated that one of the men was found studying a timetable in the early morning at a railway station, and the vigilance of the station staff was aroused, with the result that the spy was speedily arrested. It is understood that the man asked where the trains went to from the station, and his apparent complete ignorance of the locality, coupled with the earliness of the hour, made the station staff suspicious.

In the New Year Honours List (see THE RAILWAY GAZETTE of January 10, 1941, page 46), Mr. John Donald, Stationmaster, London & North Eastern Railway, Portgordon, Banff, was awarded the Medal of the Civil Division of the O.B.E.

* * *

George Monro Limited, wholesale fruit and flower merchants, Covent Garden, has written to the management of the L.N.E.R. expressing appreciation of the new arrangements made for forwarding tomato and cucumber traffic by rail from Waltham Cross. The Ministry of Food and the Ministry of Transport have also added their meed of praise.

* * *

WAR DAMAGE ON FRENCH RAILWAYS

In connection with war damage on the French National Railways system, dealt with at length in our July 25 issue, an idea as to the materials required for repairs in the Loire region is given by the fact that five bridges alone required 7,849 cu. yd. of concrete, 45 tons of steel for arches, 50 tons of bracing steel, and 654 cu. yd. of timber. The time absorbed by the repair work totalled 130,000 man-hours.

* * *

Advocates of railway nationalisation are using every aspect of the present national emergency to further their ends. The railway companies instead of the Government are being blamed for the crowds that besieged the railways during the August Bank Holiday period. Now we see that the *Daily Herald* is accusing the L.M.S.R. of inciting the public to travel because the company has replaced some of its pre-war posters by new copies, all printed before the war. The British railways have often been complimented on their pictorial posters, which brighten stations. If, when they become weather-worn they were not to be replaced, it would certainly not be in keeping with the " V " spirit we have heard so much about lately.

* * *

Two high school boys who abandoned a scrub baseball game and raced a mile to extinguish a fire threatening a Maine Central trestle between Wiscasset, Me., and Rockland, were the guests of the railroad for a ride, a luncheon, and a gift on June 15. Allowed to select their own rewards, one lad chose a watch and the other (who already had a timepiece) chose to accept the railroad's check for $25. The two rode in the cab from Wiscasset to Portland on the morning train, were the guests of the Maine Central for lunch, and returned home on the evening connection of the Pine Tree Limited.—*From the " Railway Age."*

Number, name, and builder's plates on a locomotive of the Abyssinia Railway. It will be noticed that the title of the French owning company is set out in full

XUM

OVERSEAS RAILWAY AFFAIRS

(From our special correspondents)

BRAZIL

The Transcontinental Railway

By reason of its length, 680 km., the Corumbá—Santa Cruz construction is being carried out in sections, the first, from Corumbá to El Carmen (100 km.), the second from El Carmen to São José de Chiquitos (300 km.), and the last, from São José de Chiquitos to Santa Cruz (280 km.). Notwithstanding great swamps and thick forests, the whole of the final location survey is now finished, formation throughout the first section to El Carmen is complete, and platelaying has proceeded 50 km. over the frontier; as work is continuing rapidly, El Carmen should be reached shortly.

Work has been delayed by the difficulties encountered in the region of Taquaral where the swamp extends for 30 km. between the basins of the Paraguay and Tucavaca rivers. Periodically the latter river overflows, creating a vast flood of shallow water known as the Otuquis which covers the country for four or five months before draining off and leaving the ground dry again. The crossing of the Taquaral region constitutes one of the most difficult tasks so far undertaken, because the swampy ground covered by the Otuquis necessitates a timber grid raft foundation to carry the 30 km. of 5 ft. high embankment.

Meanwhile, the new station building at Corumbá and rolling-stock repair shops at Ladario are in course of construction. These shops, incidentally, have already turned out 10 new gondolas for ballast and the construction of a further 100 is under consideration with material purchased in the U.S.A.

Tenders have already been received for the construction of the second section, from El Carmen to São José de Chiquitos, and advance gangs are working along the whole of it.

Mirasol—Porto Presidente Vargas Extension, Araraquara Railway

One of the most promising railways in Brazil runs from Araraquara, almost in the centre of the State of São Paulo, and winds its way in a north-westerly direction over the wild open plains for a distance of 300 km. to the town of Mirasol. As a penetrating railway, having as its ultimate objective the immense central tableland of Goyaz and Matto Grosso, it has fulfilled its economic mission. Passing through some 35 towns and townships—some of them, such as Taquaritinga and Rio Preto, of considerable size, it also serves a number of outlying areas, which, up to a few years ago, were regions of virgin forest. Transporting principally coffee, rice, sugar, cotton, maize, timber and dried meat, the railway is in a sound financial position, and an extension of it is in hand to Porto Taboada (recently re-named Porto Presidente Vargas) on the river Paraná.

Up-to-Date Construction Plant

Modern motorised units are in use on the construction, including six 70-h.p. caterpillar tractors, eight Le Tourneau carryalls, one angledozer, one rooter, one roadbuilder, and one caterpillar smoother, and three more units having a speed of 22 km.p.h. for the transport of earth for embankments are on order and the first of their kind to be used in South America. These units are capable of excavating, loading, transporting, spreading and compressing 48 cu. m. of earth an hour.

The extension, 220 km. in length, will be metre gauge, and have a ruling grade of 1 in 200; the minimum curve radius will be 404 m. and the rails are of 42 kg.p.m. section.

Further Extension Proposed

A further extension to St. Anna do Parnahyba is also contemplated. Even now some 100,000 head of cattle pass through Porto Presidente Vargas annually from the States of Goyaz and Matto Grosso, and with the extension of the railway the development of cattle breeding in the fertile valleys of the rivers Sucuri, Taquari, Correntes, Itiquira, and São Lourenço will increase considerably.

INDIA

Communications with Bombay Severed

Bombay and the surrounding country has been subjected to an abnormally violent break of the monsoon, and for 36 hr. it was subjected to a torrential downpour of rain, reaching a fall of 15 in. on the Western Ghats, near Kalyan junction, where the two main lines of the G.I.P.R. bifurcate. Several breaches in the railway were caused, and B.B. & C.I.R. communications were also severed. Moreover, telephonic and telegraphic communications were interrupted for nearly 12 hr., Bombay being cut off from the rest of India, and other damage was done by the cyclonic conditions prevailing. Bombay's isolation is unprecedented, the only means of communication for the time being by wireless. Later messages state that, though telephonic and telegraphic communications had been restored, goods and passenger services on both railways were completely paralysed by breaches, and only a few G.I.P.R. important passenger trains were worked through, with great delay. Messages up till July 7 stated that the B.B. & C.I.R. passenger and goods traffic was still completely at standstill, but it was hoped that goods traffic would be resumed—in addition to passenger—on the G.I.P.R. to a limited extent on July 8.

CANADA

Salvage on the C.N.R.

During 1940 miscellaneous material reclaimed and used again, and the sale of scrap and other material of no further use to the railways, effected savings totalling $4,720,000. Permanent way and rolling stock steel scrap formed the bulk of the material that went to effect this saving. Scrap sold to consumers, other than dealers, and that re-used in the railway foundries was valued at over $3,802,400.

Large quantities of timber became available when freight cars were stripped, and a proportion of it was fit for re-use, but the balance was sold to dealers for firewood and realised $14,837, mostly at Toronto and Montreal.

Passenger car axleboxes were repacked every six months and freight car boxes every fifteen months, and the packing waste and oil thus reclaimed totalled over 800 tons and 351,500 gal., respectively. Purchases of new waste and fresh oil to the same extent would have cost $366,000 and $48,000, and so, with the exception of the cost of separating, cleaning, and renovating, and of the additional oil and waste necessary to supplement the above quantities, this one item saved over $400,000 last year.

SPAIN

Family Allowances

The family allowances, which have for so many years been a feature of the concessions made by the principal Spanish railway companies to their low-grade staff, are not only to be continued on the newly-formed State system, but are to be doubled in amount. The new scale rises from a payment of 30 pesetas a month for two children to 290 pesetas a month for a family of 12 children. The Government has also authorised the payment of an additional bonus this year of one month's pay.

DENMARK

Train Ferries

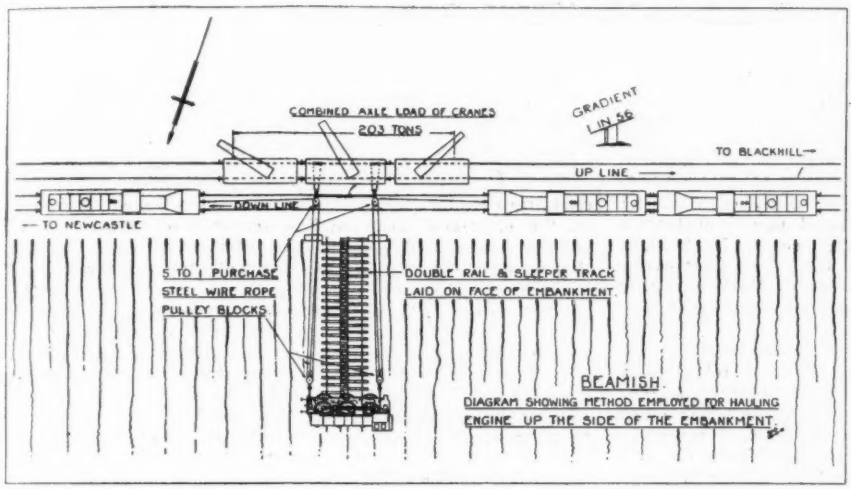
During the financial year ended March 31, 1940, the State Railways placed in service the new train ferry vessel *Staarebelt*. With a length of 339 ft., maximum width of 56 ft. 6 in., and draught of 13 ft. 2 in., her tonnage is given as 3,950 tons gross. She has two double-acting six-cylinder Burmeister & Wain diesel engines generating 5,000 h.p., and can do 16½ knots. From the bow three tracks bifurcate for transporting standard-gauge stock. On the upper deck is first class accommodation; second class passengers are accommodated below the train deck; restaurants are provided for both classes. With this addition the State Railway ferry fleet now consists of two older steam vessels and four modern motor ferries.

AN INTERESTING PROBLEM FOR THE BREAKDOWN GANG

Re-railing a locomotive from the bottom of a 45-ft. embankment which had subsided under it

*By CHAS. W. STEDMAN, Chairman, Locomotive Running Superintendents' Committee, L.N.E.R.**

DURING the early morning of March 4, the thaw which followed the unusually severe snowstorms of mid February caused a landslide on part of a high embankment west of Beamish station on the Newcastle-Blackhill line of the L.N.E.R. When a freight engine and van travelling slowly on the down line towards Newcastle reached the point of the landslide, the track subsided and the vehicles were derailed and fell down the embankment. They came to rest 70 ft. away from the line and 45 ft. below rail level, the engine and tender lying on their sides in soft ground, and the brake van almost in an upright position. The line at this point is on a gradient of 1 in 56, falling towards Newcastle, and the slope of the embankment is about 1 in 1½.



The enginemen and guard, although suffering from shock and abrasions, promptly carried out the rules for preventing trains approaching the obstruction, and succeeded in stopping a train travelling from the direction of Newcastle. The Engineer's staff slewed the lines on to firmer ground, and normal working over the branch was resumed on March 7.

The problem of getting the engine and van up the embankment and once more on the rails was then tackled. It was decided to deal with the brake van first. Two 45-ton breakdown cranes were placed on the up line, which, being further from the edge of the embankment, was on suitably firm ground, the outriggers and rail clamps were put in position and the whole firmly packed. Further, to ensure that the track was not lifted when the cranes were operated, engines were placed close up to the cranes, one at each end. Shackles were attached to the van, and with considerable difficulty the pulley block and hook of each crane—the weight in both cases being more than 1 ton—were manhandled down the embankment and attached to the shackles on the van. It was then a simple matter to pull the van to the top of the embankment and re-rail it.

The coal and water had been removed from the tender which had been uncoupled from the engine, and by a series of movements of the crane jibs and blocks it was moved away from the engine and brought up the embankment in the same way as the brake van, but with rather more difficulty because of the tendency for the tender to dig into the soft earth of the embankment.

The locomotive, a Class " J 39 " 0-6-0, presented the major problem. After the water had been removed from the boiler, the engine weighed 52 tons, and it was embedded in soft earth. Obviously something more than mere hauling by the cranes was necessary in this case, and it was decided to use block and tackle hauling gear. As a first step, two lengths of ordinary track sleepered and chaired were laid on the face of the embankment side by side, the lower end being tucked under the engine and the sleeper ends of the one track interlaced with those of the other so as to secure rigidity and prevent either track from moving.

The two 45-ton cranes with a 25-ton crane between them were placed on the up line, and stout timbers were driven into the ballast between the sleepers further to assist in preventing the track from moving during the operations.

Two sets of block and tackle with steel wire ropes were next put in position, one at each side of the track laid on the face of the embankment. The two blocks at the top of the embankment were anchored to the up side near rail under the 25-ton crane and the blocks at the bottom of the embankment were attached to shackles at each end of the engine. The blocks at the top of the embankment were coupled together by means of an adjustable chain to prevent lateral movement during the hauling operations.

Three engines were placed on the down line, two slightly to the west of the track on the face of the embankment, and one slightly to the east of it. The free or hauling ends of the wire ropes of the block and tackle were attached to these engines so that when the two engines moved slowly to the west and the one to the east, the derailed engine would be drawn up the prepared track on the face of the embankment. The arrangement is illustrated in the diagram.

Stout timbers were placed on the edge of the embankment

The locomotive being hauled up the slope

*Reprinted with acknowledgments from the *L.N.E.R. Magazine*

to prevent the wire ropes of the block and tackle from cutting into the ballast and earth and the rails of the track on the embankment were coated with grease. Men were posted by the hauling engines to transmit signals from the officers in charge of the operations.

The preparatory work was now completed, and after a final look round the officers in charge gave the signal which was passed to the drivers on the hauling engines. These engines were put in motion, and the derailed engine was slowly but successfully hauled up the face of the embankment without further incident. When it was within 6 ft. of the top of the embankment it was held there while the steel ropes of the two 45-ton cranes were attached to it, one at each end and the rope of the 25-ton crane in the centre. The engine was then partially lifted and dragged in a see-saw manner by the manipulation of the three cranes until finally it rested, still on its side, on the top of the embankment. From that position it was a simple matter for one of the 45-ton cranes to roll it on to its wheels, after which it was picked up by the two heavier cranes and re-railed on the down line.

The engine had sustained comparatively little damage either by the fall or the process of re-railing, and it was hauled on its own wheels to Tyne Dock locomotive sheds for detailed examination, cleaning and repair.

The officers in charge of this very unusual and difficult job are to be congratulated on their skilful handling of an awkward problem, and thanks are due to the whole of the men who took part in the operations.

RAILWAY REFRIGERATION PROBLEMS

THE informal discussion of railway refrigeration problems which was introduced by Mr. F. C. Johansen of the L.M.S. Railway Research Department at the Institution of Mechanical Engineers on May 23, was concerned primarily with refrigerated rail transport in this country. During the ten years before the outbreak of war a good deal of experimental work was conducted by each of the four groups, with results that promised more substantial increases of traffic than had, in fact, been realised when development was interrupted by the war. In almost every aspect of such work the L.M.S.R. has been actively engaged, and its experience may be accepted as representative of that of the other lines. It is important to cite, therefore, a point emphasised by the opening speaker and endorsed in the ensuing general discussion, that the problems of refrigerated rail transport are profoundly influenced by economic factors. The general problem, indeed, is not that of simply conveying frozen produce in the best possible state of preservation. With the resources of mechanical refrigeration and thermal insulation now available, that would be a comparatively straightforward matter, but its application as a paying proposition would be greatly restricted by the cool climate and the shortness of freight transits in this country.

The general problem actually calling for solution is that of balancing the improved condition and enhanced value of the product against the costs of alternative methods and degrees of refrigeration, and against increased costs of transport, regard being paid to the facilities available for operating a special traffic along with the bulk of rail-borne freight by means of existing staff in existing trains and depots. Such factors as these have an important bearing on the extension of refrigerator service to new commodities and new districts, as well as to the technical methods that can profitably be adopted to achieve satisfactory refrigeration. If, for example, there exists between certain districts a large and regular traffic, it should be possible to employ the ideal system of a refrigerated train, comprising a number of insulated vans to which cold brine is piped from a single power-vehicle equipped with a large compression-type refrigerating machine. Separate thermostatic control for each freight van would enable different commodities to be conveyed at appropriate temperatures, while precooling before loading would be greatly simplified.

Large-scale precooling of vans by the circulation of air chilled by a stationary refrigerator was, in fact, introduced several years ago for trans-continental traffic starting from Italy. So far, in this country, refrigerated rail traffics have been too small and too uncertain to justify more than a relatively small provision of insulated vans cooled by ice, ice and salt, or solid carbon dioxide (" dry ice "), and pre-cooled by the simple expedient of placing the refrigerant in the van some time before loading. Despite the seeming simplicity of this procedure, technical problems presenting many points of interest have arisen in the endeavour to make refrigeration by rail at once economically successful and attractive to traders. In the design of insulated vans and containers, for example, such factors as shape, size, weight, thermal capacity, airtightness, ease of cleansing, cost, heat leak and durability of the insulating material all call for simultaneous consideration and have been scientifically investigated in relation to the commodity to be refrigerated and the duration of its transit on rail. The refrigerant to be employed, too, is to some extent governed by the existence, near loading stations, of cheap or convenient supplies of ice or solid carbon dioxide; and the choice, when decided, not only affects the construction of the vehicle but raises physical problems associated with the maintenance of temperatures within prescribed limits, or, if dry ice is used, biological problems due to the effects of gaseous carbon dioxide upon certain foodstuffs. Such effects of carbon dioxide are rather undesirable than harmful, but they are sufficiently evident with milk and its products to justify the construction by the L.M.S.R. of some very fine, large milk vans in which the gas from the dry ice bunkers is piped into the insulation space to prevent contamination of the milk.

While these and other technical difficulties with solid carbon dioxide can be surmounted, the cost of that refrigerant is high enough to justify consideration of mechanical refrigeration on individual vans for regular traffic in reasonable volume. For various reasons, notably associated with pre-cooling or maintenance, compressor refrigerating machines driven from the axle of the van or by internal combustion engine are open to objection for service in this country. As an alternative, the research staff of the L.M.S.R. has developed an absorption apparatus worked by the low-pressure heating steam supply available on locomotives. For experimental purposes one van, equipped in this way is at present undergoing trials. The agents used are ammonia and calcium chloride. The action is intermittent and thermostatically controlled through valves governing the steam supply. At stations and depots where low-pressure steam is available, either from a standing locomotive or from a service source, it will be possible to pre-cool the van or to continue refrigeration even though the van is not attached to a train. But to guard against the lack of such facilities during shunting operations or emergencies at terminal points of transit, the van has been designed to have a " hold-over " of eight hours, during which refrigeration will proceed continuously after a full charge of steam. This provision has entailed a much larger absorption plant than would otherwise have been necessary, and one of the major objects of the trials now proceeding will be to ascertain the relation between the capacity of the refrigerator and the actual day-and-night routine service demands upon it. Other pairs of refrigerating agents, such as monomethylamine and lithium chloride, offer some economy in the size of plant, as well as other advantages, by comparison with ammonia and calcium chloride, and will, it is hoped, be the subject of future developments if the present experimental van appears sufficiently promising after stringent performance tests.

XUM

HIGH SPEED AND PUNCTUALITY

Some notes on the operating methods of the Chicago, Milwaukee, St. Paul & Pacific Railroad on which 100 *m.p.h. running is obtained with regularity*

THE necessity for precision in the operation of high speed passenger trains is stressed in a recent article* entitled "Keeping High-Speed Trains on Time" by Mr. J. E. Bjorklholm, Assistant Superintendent of Motive Power, Chicago, Milwaukee, St. Paul & Pacific Railroad. It will be recalled that this American company is responsible for working the fastest steam-hauled service in the world, with schedules averaging up to 81 m.p.h. from start to stop, and running speeds rising regularly to 100 m.p.h. Mr. Bjorklholm remarks that whereas in the past engine-crews would avoid hard uphill work by means of excessive downhill speeds, or by scamping speed restrictions, apart from considerations of safety the attraction of the luxurious modern streamliner would be largely nullified if drivers, by reckless handling of their engines, caused the stock to ride roughly. The schedules of the Hiawatha—the train referred to above, which makes two eastbound and two westbound journeys daily over the 410·5 miles between Chicago and St. Paul, three of them in 6¼ hr., all stops included—were established after close study of curvature, gradients, the condition of the roadbed in general, and all other factors peculiar to the line and its operation in the territory served by these trains. From the inception of the service in 1935, the management made it clear to the enginemen that no violation of speed restrictions would be tolerated, beyond a running margin of 2 to 3 m.p.h. over the prescribed figure on straight track; and to the credit of the men it may be said that since they have familiarised themselves with the schedules, even minor cases of excessive speed have become rare, and at times months have passed by without a single violation of a speed restriction.

Benefits of Self-Recording Speedometers

Self-recording speed indicators are, of course, installed on the locomotives, and a careful daily check of the speedometer tapes is made in the office of the Superintendent of Motive Power, the check being against standard or master tapes which are kept in this office. Not only is the observance of speed restrictions thus kept constantly under notice, but also operating delays of all descriptions, which as the result of this scrutiny are brought promptly to the notice of the officers concerned. So beneficial to efficient operation has this policy proved that it has now been extended to all the principal passenger and freight trains on the Milwaukee system. Even with the Hiawatha trains, however, the usual American practice is followed of allowing margins at various stages of the journey, and especially the concluding stage, in order to permit of the recovery of time lost by abnormal causes and to ensure a punctual arrival. The value of this policy is seen in the fact that throughout the year 1940 the four Hiawatha trains achieved 93 per cent. of punctual arrivals at terminals, in all weathers. Rapid acceleration from stops and slacks is strongly encouraged, as this tends to restrict the maximum speeds necessary for timekeeping, and enginemen are also instructed, with the assistance of permanent speed restriction boards at the lineside, to reduce their speed in advance of a restriction, so that their trains may as far as possible ride smoothly round curves with the brakes released. Further to secure the comfort of passengers, a watch is kept on drivers' methods of starting and stopping; and though, with heavy American stock, on occasions when the trains are made up to maximum weight rough starts cannot always be avoided, with the air-brake equipment in proper order there is no excuse for rough stops.

Hiawatha Schedules

The fastest point-to-point Hiawatha schedule is that of the eastbound morning Hiawatha, which is booked to cover the 78·3 miles from Sparta to Portage in 58 min., at 81·0 m.p.h. start to stop. Included in this average are two reductions to 50 m.p.h. at the two ends of the 3 miles of single line between Raymore and Tunnel City, a second stretch of 5 miles with several slacks to 65 and 70 m.p.h., a further 70 m.p.h. slowing for a level crossing over another railway, and a rising start of 13 miles, 5½ of which are at 1 in 200 and 2½ at 150. From this the necessity for 100 m.p.h. maximum speeds on suitable stretches of the line is obvious. A log of this train, recorded recently by Mr. Eric Crickmay, shows that with a nine-car 430-ton load streamlined 4-6-4 locomotive No. 100 gained 12 min. in running, by recovery of lost time, over the 370 miles between Red Wing and Chicago. The run of 78·3 miles from Sparta to Portage was made in 57 min. 14 sec., at 82·1 m.p.h., 45·0 miles from Tomah to Wisconsin Dells being covered at an average of 94·1 m.p.h. As examples of exceptionally rapid acceleration from rest, two short start-to-stop runs in particular may be cited—24·6 miles from La Crosse to Sparta in 20 min. 3 sec., at 73·6 m.p.h., and 28·2 miles from Portage to Columbus in 22 min. 36 sec., at 74·8 m.p.h. A tape from one of the Hiawatha locomotives shows a remarkable performance on the run from Milwaukee to Chicago. After the usual very slow exit from Milwaukee, the engine accelerated to 80 m.p.h. up the 1 in 150 to Lake, and from that figure to 100 m.p.h. down faintly falling grades to Oakwood, after which, save for one momentary drop to 97 m.p.h., speed was maintained for 62½ miles at 100–103 m.p.h., to just beyond Edgebrook. Over the 100 m.p.h. stretch the gradients are negligible, and there is no curve of sharper radius than 1 deg. (5,730 ft.). It will thus be seen that the previous world record of 43 miles at 100 m.p.h. average achieved by the L.N.E.R. streamlined Pacific *Silver Link* on September 27, 1935, is being beaten in daily running by this steam-hauled American express.

Steam Trains booked at 70 m.p.h.

In conclusion, we give a list of the steam-train runs scheduled daily over Milwaukee metals at over 70 m.p.h. from start to stop, which now number 18, with an aggregate mileage of 1,083; these are far higher figures than those of any other railway in the world achieved exclusively with steam. The Mid-West Hiawatha is worked by the original streamlined 4-4-2 locomotives built for the Hiawatha service, but for the latter, and in particular the heavier morning Hiawatha workings in each direction, the larger and more powerful streamlined 4-6-4s are now used.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC RAILROAD STEAM-HAULED RUNS EXCEEDING 70 M.P.H. FROM START TO STOP, SPRING, 1941

Train	From	To	Distance	Time	Speed
			Miles	Min.	M.p.h.
Hiawatha	Sparta	Portage ...	78·3	58	81·0
,, ...	New Lisbon ...	,, ...	43·1	33	78·4
Mid-West Hiawatha	Perry Yard ...	Manilla	60·3	47	77·0
,, ,,	Elgin	Davis Junction	43·4	34	76·6
Hiawatha	La Crosse ...	New Lisbon ...	59·8	47	76·4
Chippewa	Sturtevant ...	Deerfield ...	37·9	30	75·8
Hiawatha	Portage ...	Watertown ...	46·9	38	74·1
Mid-West Hiawatha	Manilla	Perry Yard ...	60·3	49	73·8
Hiawatha	Portage ...	Columbus ...	28·2	23	73·6
,, ...	New Lisbon ...	La Crosse ...	59·8	49	73·2
Mid-West Hiawatha	Davis Junction	Elgin	43·4	36	72·3
Hiawatha	Wisconsin Dells	Mauston ...	19·2	16	72·0
,, ...	Deerfield ...	Milwaukee ...	61·1	51	71·9
,, ...	Chicago... ...	Milwaukee ...	85·0	71	71·8
,, ...	Milwaukee ...	Portage ...	92·9	78	71·5
Mid-West Hiawatha	Marion	Madrid	119·5	101	71·0
,, ,, ...	Madrid	Marion	119·5	102	70·3
Hiawatha	La Crosse ...	Sparta	24·6	21	70·5

A note on American Speed Enterprise, on page 167, may be read in conjunction with the foregoing.

* *Railway Age*, February 22, 1941

XUM

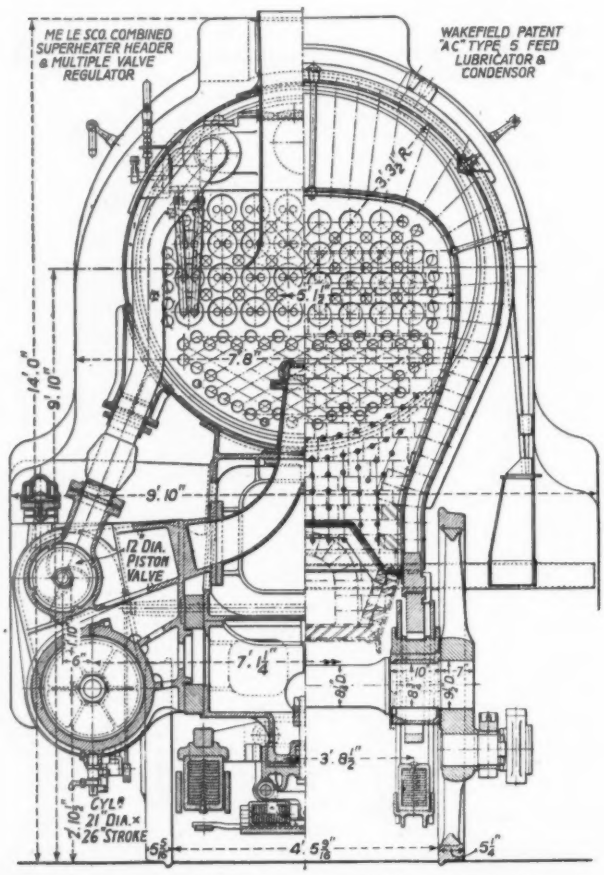
NEW PACIFIC TYPE LOCOMOTIVES FOR IRAQ

These locomotives intended for working international expresses on the Iraqi section of the Baghdad Railway are streamlined and incorporate special features

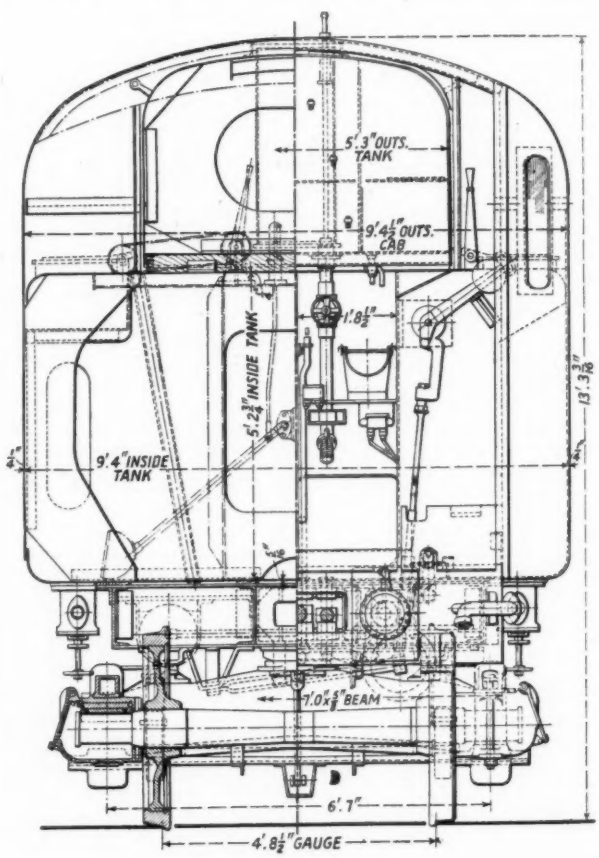
AN order for four locomotives for the Iraqi State Railways has recently been completed at the Darlington works of Robert Stephenson & Hawthorns Limited. The engines were designed and built to comply with the requirements of Mr. A. P. Challoner, late Chief Mechanical Engineer of the Iraqi State Railways, and the work was carried out under the supervision and inspection of the Crown Agents for the Colonies. The duty specified for the new locomotives is that of hauling 400–500-ton express trains between Tel Kotchek and Baghdad, the last section of the Baghdad railway, a distance of 330 miles. The trains should normally consist of eight cars of Wagons-Lits and Iraqi air-conditioned stock, each weighing 55 tons. Speeds of 60-65 m.p.h. are required on the level and 30 m.p.h. on grades of 1 in 125. There is, in addition, a short section at Mosul with a gradient of 1 in 80. The track is substantially laid with stone ballast and 75-lb. B.S. rails, but, as a considerable portion of it is over light desert land which will take an appreciable time to settle, careful consideration had necessarily to be given to riding qualities.

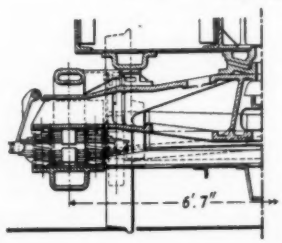
Whilst alternative locomotive designs were prepared, incorporating alloy steels, etc., which would have allowed of increased capacity, the use of carbon steels was preferred, and in general a light form of construction adopted. Weight considerations did not, however, influence the design of the boiler and firebox to any material degree. Generous tube spacing is allowed, and heavy-gauge copper tubes and flues are used. As the drawings reproduced indicate, more nominal heating surface could have been obtained, but only at the expense of more valuable attributes, bearing in mind the conditions to be met. Oil firing is exclusively used, consequently grate area proportions, as such, have not the same significance as in coal-fired engines, and it was therefore possible to accommodate the firebox between the coupled wheels, a valuable asset from the weight distribution point of view. The superheater, supplied by the Superheater Co. Ltd., has 30 elements and incorporates the multiple regulator; in addition, a Me-Le-Sco patent steam dryer is provided in the dome in conjunction with a stop valve operated from the side of the dome.

The oil-firing equipment is planned in accordance with Iraqi Railway practice, and, as shown in the drawings, a brick



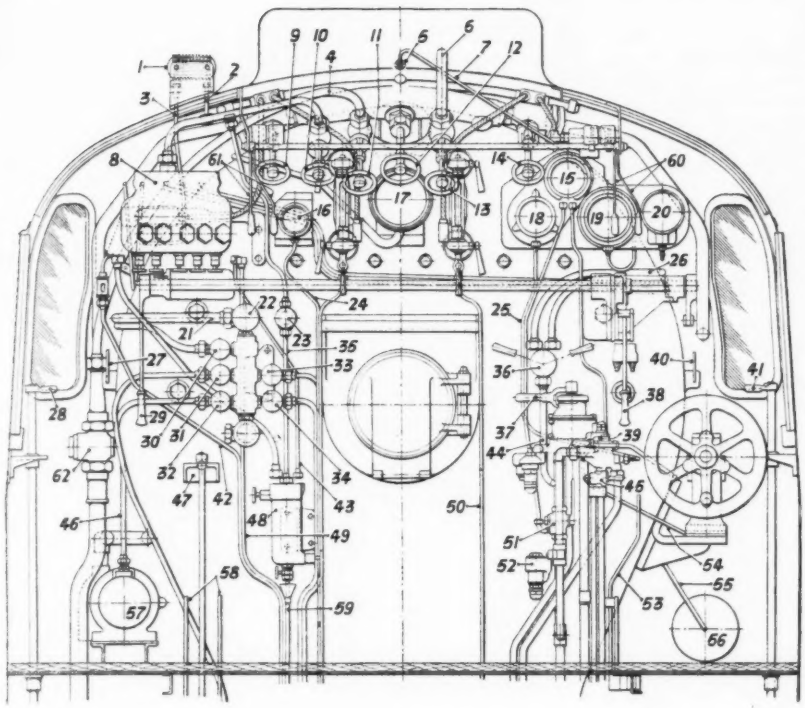
Half cross-sectional view through smokebox and cylinders, also through firebox, main frame, and driving wheel





Above: Half cross section and half front view of tender

Left: Half cross section through tender bogie



1. Lubricator condenser
2. Condenser steam pipe
3. Condenser water pipe
4. Steam heating pipe
5. Pressure gauge cock
6. Westinghouse compressor steam pipe
7. Pressure gauge pipe
8. Wakefield patent A.C. type lubricator 5 feeds
9. Injector steam
10. Sight feed lubricator steam valve
11. Steam heating valve
12. Shut down valve
13. Westinghouse brake valve
14. Injector steam valve
15. Westinghouse brake duplex gauge
16. Steam heating pressure gauge
17. Pyrometer
18. Westinghouse brake gauge
19. Boiler pressure gauge
20. Speed indicator
21. Superheated steam pipe to manifold
22. Superheated steam valve
23. Globe valve
24. Pipe to steam heating gauge
25. Brake gauge pipes
26. Sanding valve to sand boxes
27. Injector starting valve handle
28. Injector water handle
29. Regulator handle (L.H.)
30. Blower valve
31. Burner valve
32. Turbo-generator valve
33. Heater valve
34. Blow back valve
35. Pipe to transfer filler (warming)
36. Sanding valve
37. Driver's brake valve (automatic)
38. Regulator handle (R.H.)
39. Straight air brake valve
40. Injector starting valve handle
41. Injector water handle
42. Lubricator drain pipe
43. Transfer filler water pipe
44. Sanding air pipe
45. Release valve
46. Turbo-generator steam pipe
47. Oil regulator valve
48. Lubricator transfer filler
49. Lubricator relief valve drain
50. Water gauge drain
51. Isolating cock
52. Reducing valve
53. Cylinder cock handle
54. Brake valve to governor pipe
55. Brake valve to equalising reservoir pipe
56. Equalising reservoir
57. Turbo-generator
58. Firepan damper handles
59. Transfer filler drains
60. Large and small whistle levers (R.H.)
61. Large and small whistle levers (L.H.)
62. Steam heat reducing valve

Arrangement of controls and fittings in cab

chequer wall is built across the firebox, the front face of which is about 18 in. from the tubeplate. There is also the usual flash wall, brickwork, dampers, etc., and the burner is of the Mexican trough variety. A superheated steam manifold supplies steam to the various oil fittings and also the blower, and particular care was taken with the design of the regulating valve to provide a fine self-locking adjustment. The shape of the firebox makes a long flame possible, and, under test, the boiler has proved to be a quick steamer. The boiler is fed by two Gresham & Craven No. 11 injectors, feeding to a clackbox on the top of the barrel. Three 3-in. dia. Ross pop safety valves are fitted, set to blow off at 220 lb. per sq. in., while two whistles are provided, one sounding a three-note chime and the other a single and more penetrating note.

The frames are of the bar type, with hornclips of standard American design; there is a strong steel box casting between the cylinders upon which the smokebox saddle is erected. The frames are in one piece throughout their length and were machined from solid steel slabs. The coupled axle-boxes, of cast steel, are fitted with crescent-shaped bearings and bronze hub liners; the axle-boxes are oil lubricated by gravity feed, through oil-resisting hoses, and independent feeds are provided for the wheel faces. The trailing coupled springs are below the axle, a yoke being employed; this enables all the coupled springs and axleboxes to be identical. The axle-boxes have readily removable sponge boxes.

Riding qualities studied

At the time the designs were in preparation the Indian Pacific Locomotive Report had not been published, but considerable interest had been aroused and focused upon this question, and particular attention was therefore given to the riding qualities of this Pacific engine, in view of the anticipated elastic nature of the permanent way. The side controlling forces were rendered easily adjustable from zero to maximum with a range up to 5·75 tons for the bogie and 3·75 tons for the truck. In designing the trailing truck, a light all-sprung truck frame was preferred, the various deadweight frame designs now in vogue, mainly of American origin, being considered more suitable for the relatively heavy tracks of that country. These trucks, however, all have one feature in common, namely, their designs are apparently based upon the incorporation of a hind compensating beam and in a manner which allows full transverse movement of the truck without in any way imposing constraint upon the free working or quick response of the beam in a vertical plane. In order, therefore, to make the same provision with an all-sprung frame, the compensating beams are pivoted, the free ends being piloted by universally jointed links attached to the truck frame. An alternative to this would have been the attachment of the compensating beam trunnion to the truck frame itself, but considerations of weight precluded the necessarily heavy construction entailed. Furthermore, some movement would still remain at the front end of the beams which the short links of the underhung trailing coupled springs could not readily accommodate.

The intermediate drawbar has a ratchet screw coupling, and side buffers are provided, the latter having sufficiently long springs to give virtually constant resistance in normal relative positions of the engine and tender. The engine and tender are fitted with standard Continental type couplings suitable for the international stock dealt with.

Large size piston valves

The cylinders, two in number, measuring 21 in. dia. by 26 in. stroke, have 12-in. dia. piston valves with long travel; both piston and valves have narrow rings; a by-pass is provided and snifting valves are located on the steam branch pipes, the air being drawn from a point adjacent to the top of the smokebox. The coupling and connecting rods, of C class steel, have large oil reservoirs with oiling arrangements of special design, the latter applying to all the valve-gear details and the engine generally. One of the main considera-

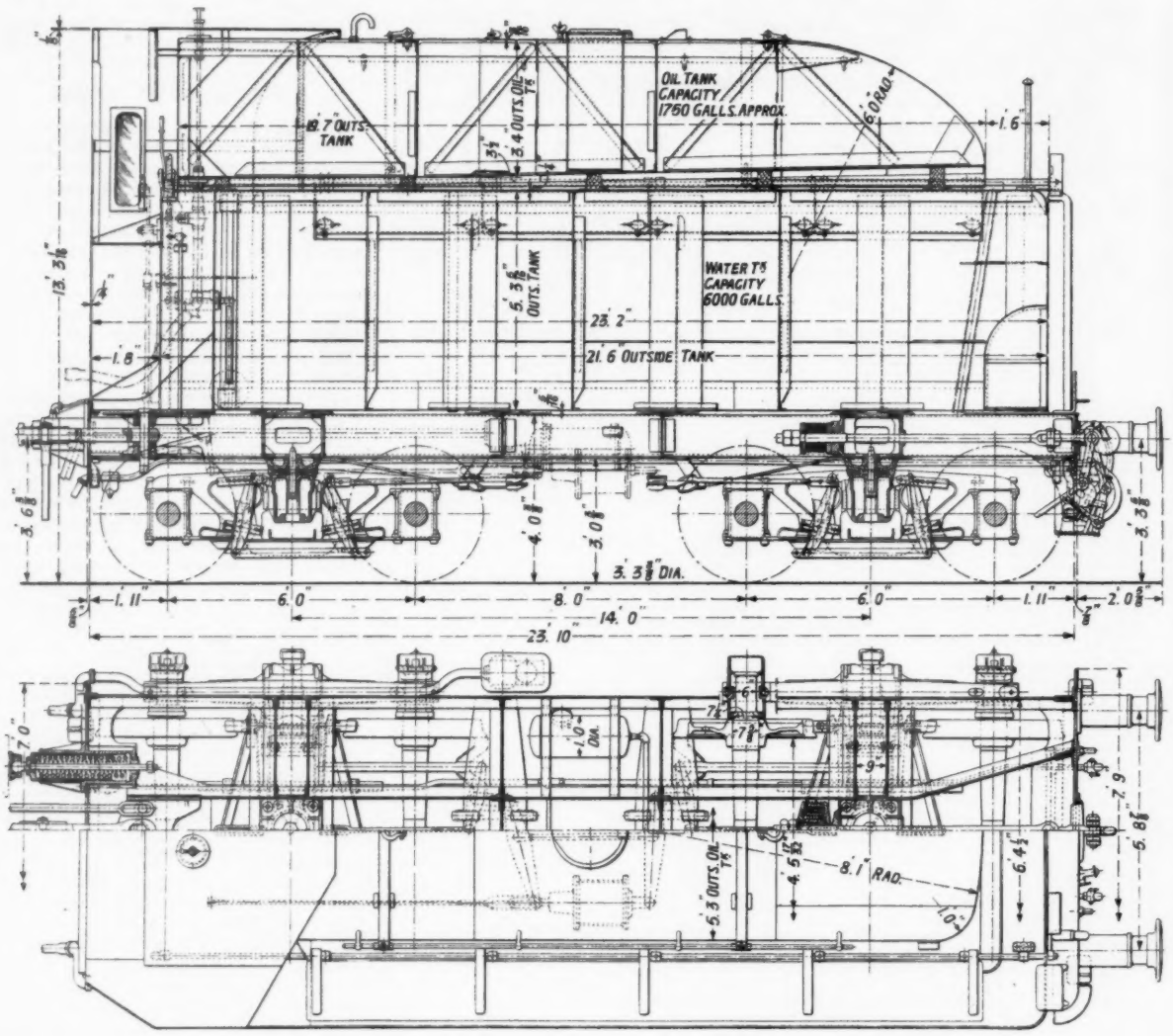
XUM

tions was provision against the entry of the fine desert dust prevalent in the country.

Westinghouse combined automatic and straight air brakes are provided, with an 8½-in. cross compound compressor. The tender is fitted with hand brake-mechanism of the Continental throw-over pattern. The cab is exceptionally roomy and completely enclosed, with a flush platform; a door gives access at the back to the tender oil valves, tank filling lid handles and throw-over hand brake. There is no tender platform, all operations being performed when standing upon the engine platform, thus dispensing with a fall plate and connections.

In view of the hot climate the question of ventilation had to be carefully considered, and air extracting adjustable louvres are provided in the clerestory. The chamfered portions of the cab, whilst maintaining externally the appearance of unit construction between the engine and tender, enable a through current of air to be circulated *via* the window openings. Comfortable bucket seats, with Dunlopillo seats and backs covered with leather and supported upon springs, are provided for the driver and fireman.

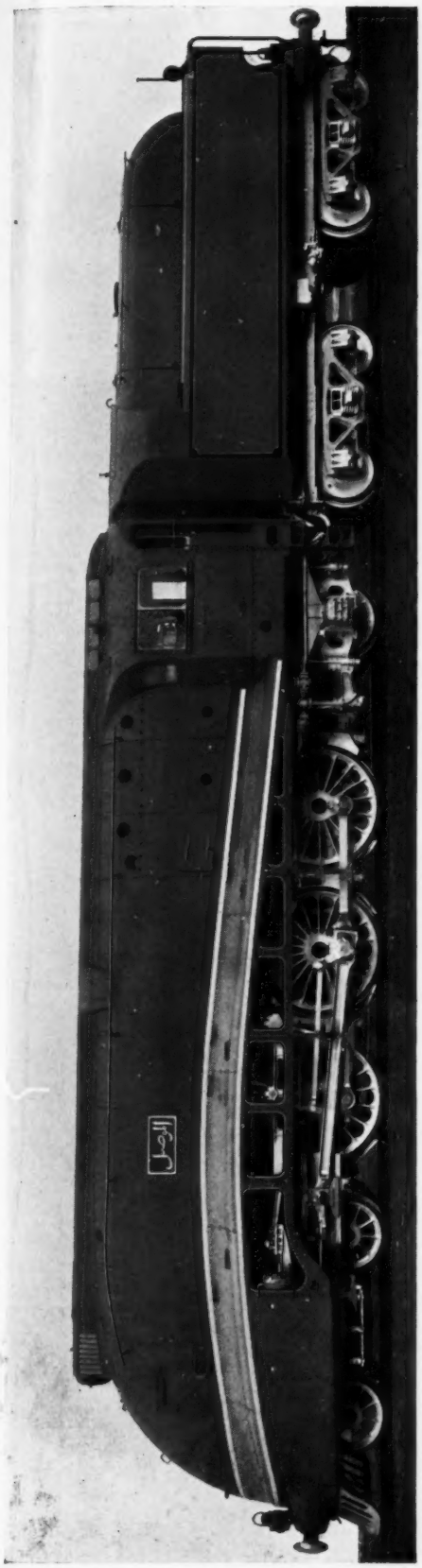
The streamlining is carried upon longitudinal girders, the latter supported on outriggers from the frame, the streamlining thus being independent of the boiler. The rectangular openings in the girders give access to the motion, etc., whilst at the same time the form of the streamlining is preserved. The rounded front-end appearance was preferred; hinged doors are therefore provided in a manner very similar to those of Mr. Stanier's streamlined engines on the London Midland & Scottish Railway. An air duct with louvres is also arranged at the chimney to assist in lifting the gases over the clerestory. The latter is continuous, and contained in it are the dome, sandbox—the latter operating with compressed air—and other fittings, including the steam turret, all of which are readily accessible.

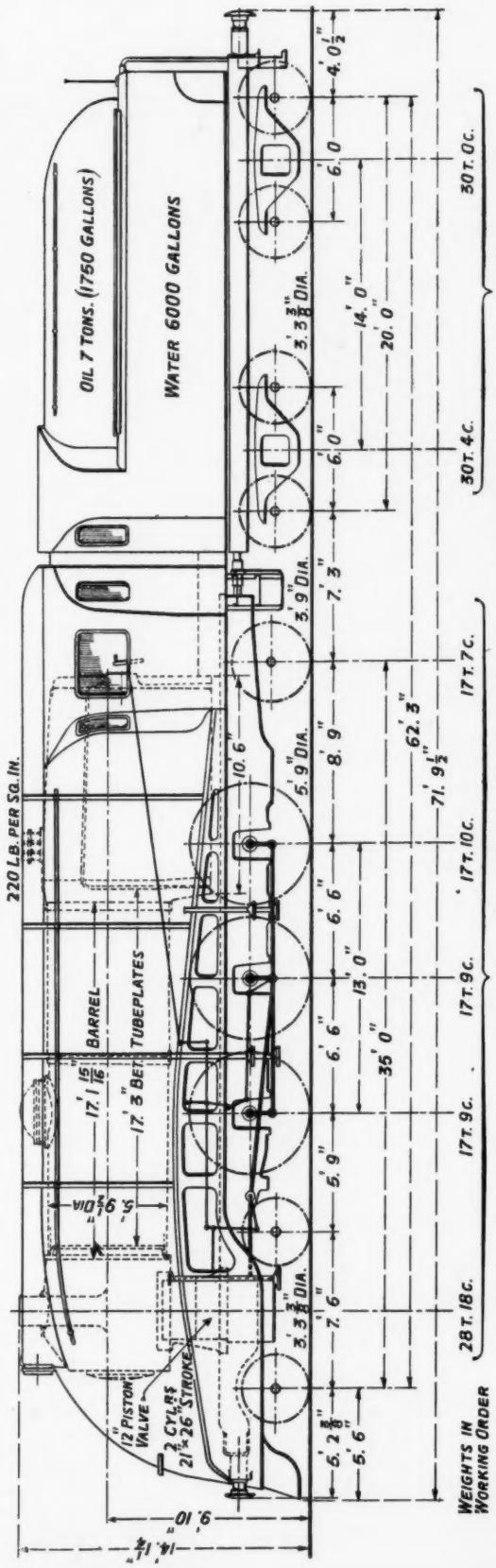


Details of double-bogie oil-fuel tender in sectional elevation and plan

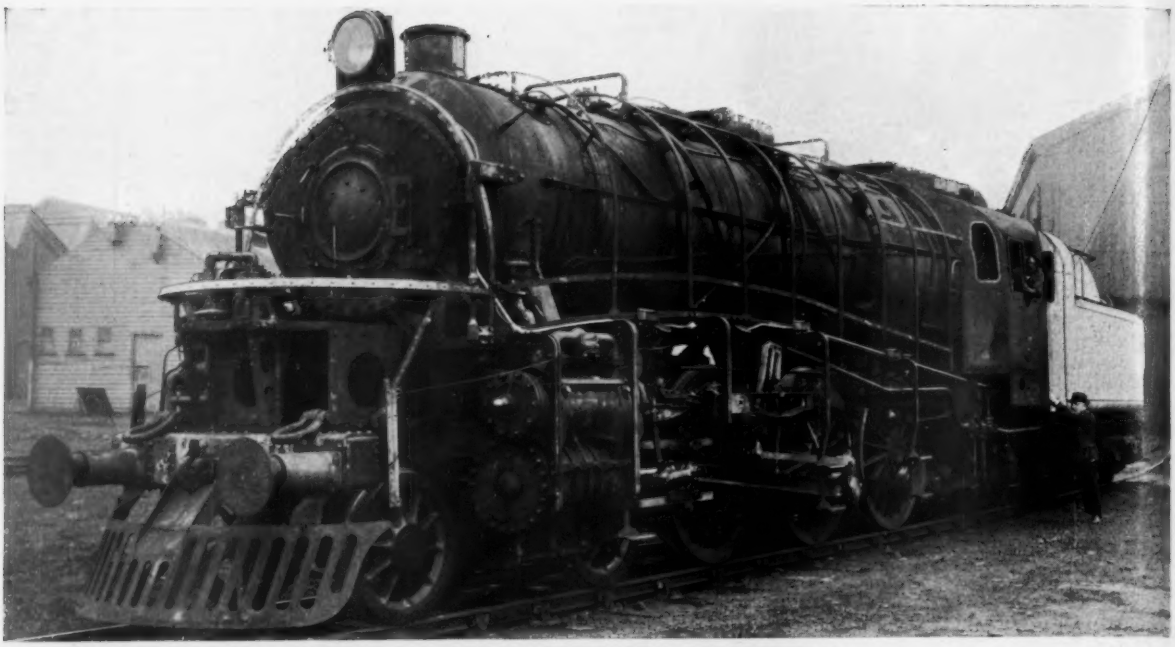
Design of bogies

The tender bogies are of Davis & Lloyd's cast steel patented design with double truss side frames and bolsters and with coil elliptic spring groups. Mintex anti-friction material is used for the bogie centre liners also in the engine bogie centre and truck side bearers. The bogies are duplicates of those in the modern air-conditioned passenger stock being supplied to the Iraqi State Railways by the Birmingham Railway Carriage & Wagon Co. Ltd. The water tank, with a capacity of 6,000 gal., is of light and mainly welded construction and is fitted with continuous filling lids extending over most of the tank. These can be operated from the back of the tender or from

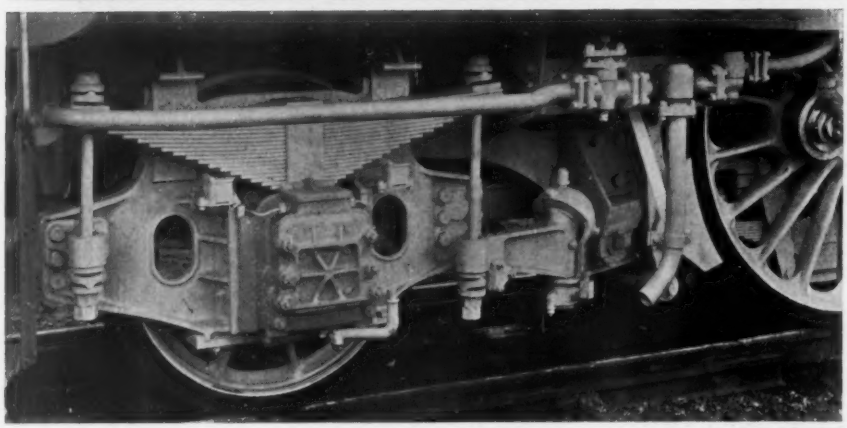




New 4-6-2 type oil-fired streamlined express locomotive, Iraqi State Railways. Built by Robert Stephenson & Hawthorns Limited, Darlington



Above: General view of Iraqi State Railways locomotive before streamlining



Left: Close-up view of trailing engine truck

Below: Rear view showing lifting jacks and various connections for international rolling stock

Below: Front view with hinged streamlined casing doors open

handles located within easy reach of the door in the back of the cab.

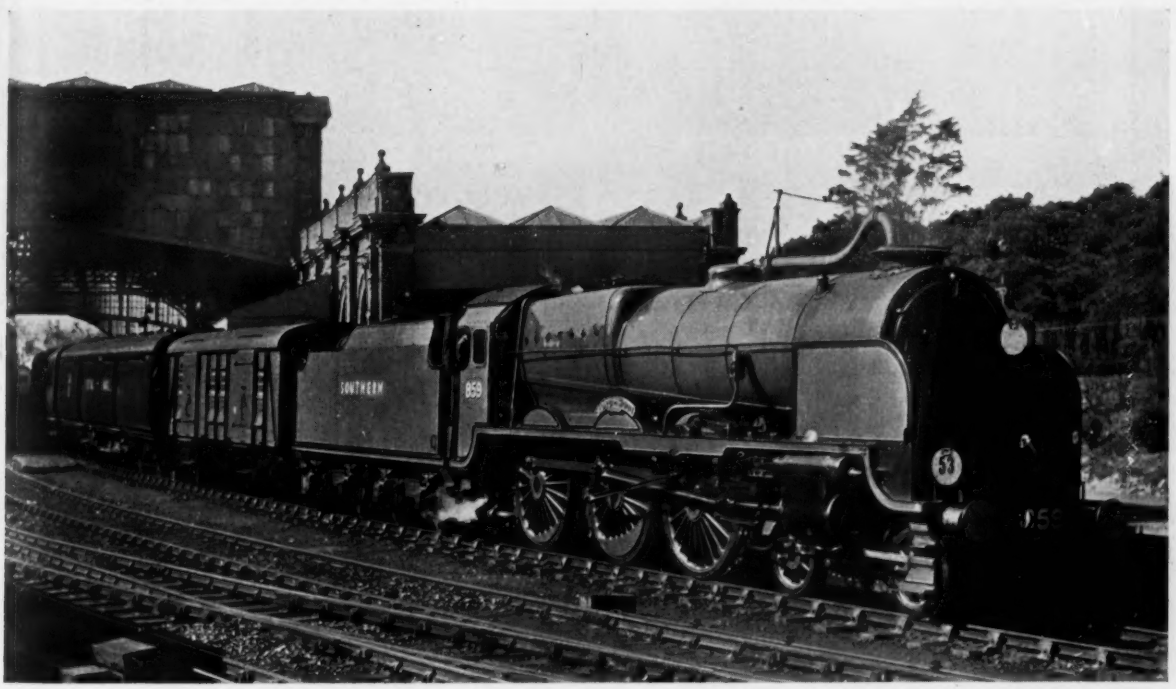
The oil tank is arranged to be readily detachable without removal of the tender cab and has a capacity of 1,750 gal.

The leading particulars are as follow :—

Cylinders (2), dia.	21 in.
,, stroke	26 in.
Coupled wheels, dia.	5 ft. 9 in.
Wheelbase, rigid	13 ft. 0 in.
,, total	35 ft. 0 in.
Evaporative heating surface, tubes and flues	1,987 sq. ft.
,, ,, ,, firebox	197 sq. ft.
,, ,, ,, total	2,184 sq. ft.
Superheating surface	522 sq. ft.
Combined total	2,706 sq. ft.
Grate area	31·2 sq. ft.
Boiler pressure, per sq. in.	220 lb.
Tractive effort (at 85 per cent. boiler pressure)	31·080 lb.
Factor of adhesion	3·8
Adhesion weight	52 tons 8 cwt.
Weight of engine, in working order	98 tons 13 cwt.
Weight of tender ,, ,,	60 tons 4 cwt.
Weight of engine and tender, in working order	158 tons 17 cwt.
Water capacity of tender	6,000 gal.
Oil tank capacity	7 tons (1,750 gal.)
Overall length	71 ft. 9½ in.

The locomotive is fully equipped in accordance with modern practice, and a list of the various fittings and the names of the manufacturers follow :—

Part	*Manufacturer*
Flannery type stays	Flannery Staybolt Co. Ltd.
Me-Le-Sco patent dryer and shut-down valve	Superheater Co. Ltd.
Superheater (combined with regulator and drifting valve header)	Superheater Co. Ltd.
Ross pop safety valves	R. L. Ross & Co. Ltd.
Everlasting blow-off cocks	Everlasting Valve Co. Ltd.
Water gauges (Klingers' patent)	Richard Klinger Limited
Pyrometer (capillary type)	Cambridge Instrument Co. Ltd.
Armstrong oilers	Armstrong Oiler Co. Ltd.
Hind truck trunnions (Cromax steel)	Castings supplied by Edgar Allen & Co. Ltd.
Buffers	Geo. Turton Flatts & Co. Ltd.
Metallic packings	United States Metallic Packing Co. Ltd.
Piston valve rings	Light Production Co. Ltd.
Dunlopillo (seat and back rests)	Dunlop Rubber Co. Ltd.
Electric lighting	J. Stone & Co. Ltd.
Brake (Westinghouse)	Westinghouse Brake & Signal Co. Ltd.
Injectors No. 11	Gresham & Craven Limited
Lubricator (A.C. type 5-feed 6-pint) with separate transfer filter	C. C. Wakefield & Co. Ltd.
Steam-heating reducing valve	Gresham & Craven Limited
Stone-Deuta electrical speed indicator	J. Stone & Co. Ltd.
Oil resisting hose (Tucks' patent)	Tuck & Co. Ltd.



Up Express at Bournemouth Central, Southern Railway. "Lord Nelson" class 4-cylinder 4-6-0 locomotive No. 859. This engine has 6 ft. 3 in. coupled wheels

Photo] [*J. Kinnison*

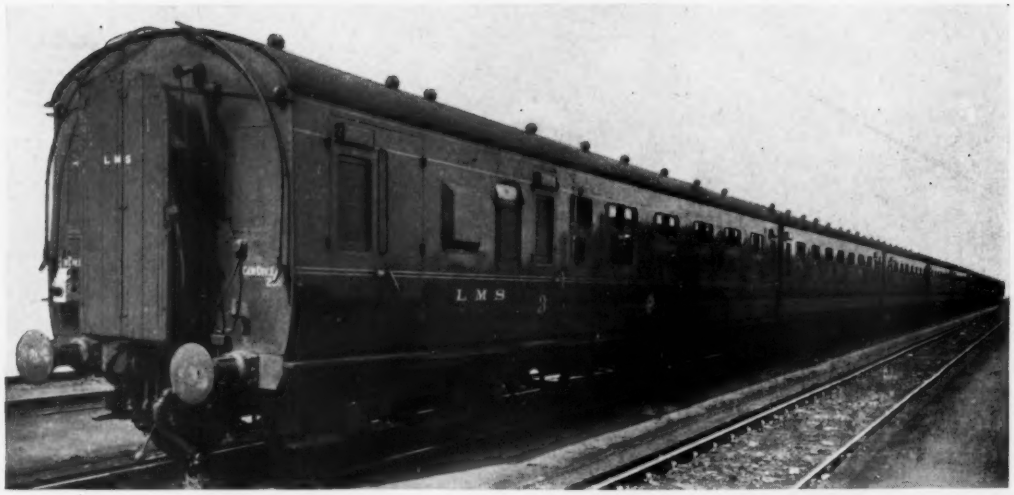
American Speed Enterprise

Five notable railway records in connection with express train operation are now held by the United States of America, and are a striking testimony to the extent of American speed progress in 1940. To the Chicago, Burlington & Quincy RR. belongs the distinction of having the fastest railway run in the world, one of its Zephyr diesel trains being booked to cover the 54·6 miles from East Dubuque to Prairie du Chien in 39 min., at 84·0 m.p.h. start to stop. Steam is not far behind, for on the Chicago, Milwaukee, St. Paul & Pacific Railroad the eastbound morning Hiawatha has to cover the 78·3 miles from Sparta to Portage in 58 min., at 81·0 m.p.h. start-to-stop—the fastest run in the world with steam, and the first steam-operated run at over 80 m.p.h. yet to figure in a railway timetable. The Union Pacific now claims the distinction of the longest regular non-stop railway run in the world, for the diesel-operated 17-car City of Los Angeles is being run in each direction over the 324·6 miles between Salt Lake City and Caliente without an intermediate stop; in normal times the 392·7 miles of the L.N.E.R. Flying Scotsman would beat this, but only for ten weeks in the height of the summer. Last of all, the New York Central System, with 16,121 miles of runs scheduled daily at 60 m.p.h. and over from start to stop, and the Pennsylvania Railroad, with 12,218 miles booked at over 62 m.p.h., are both far ahead of any individual railway rivals, not even the unified railway systems of Germany and France in normal times being able to produce anything like such enormous figures. These records are healthy indications of the determination of possible rail travel consistent with comfort and safety.

XUM

A NORTHAMPTON-EUSTON TRAIN

(*See editorial note on page* 154)

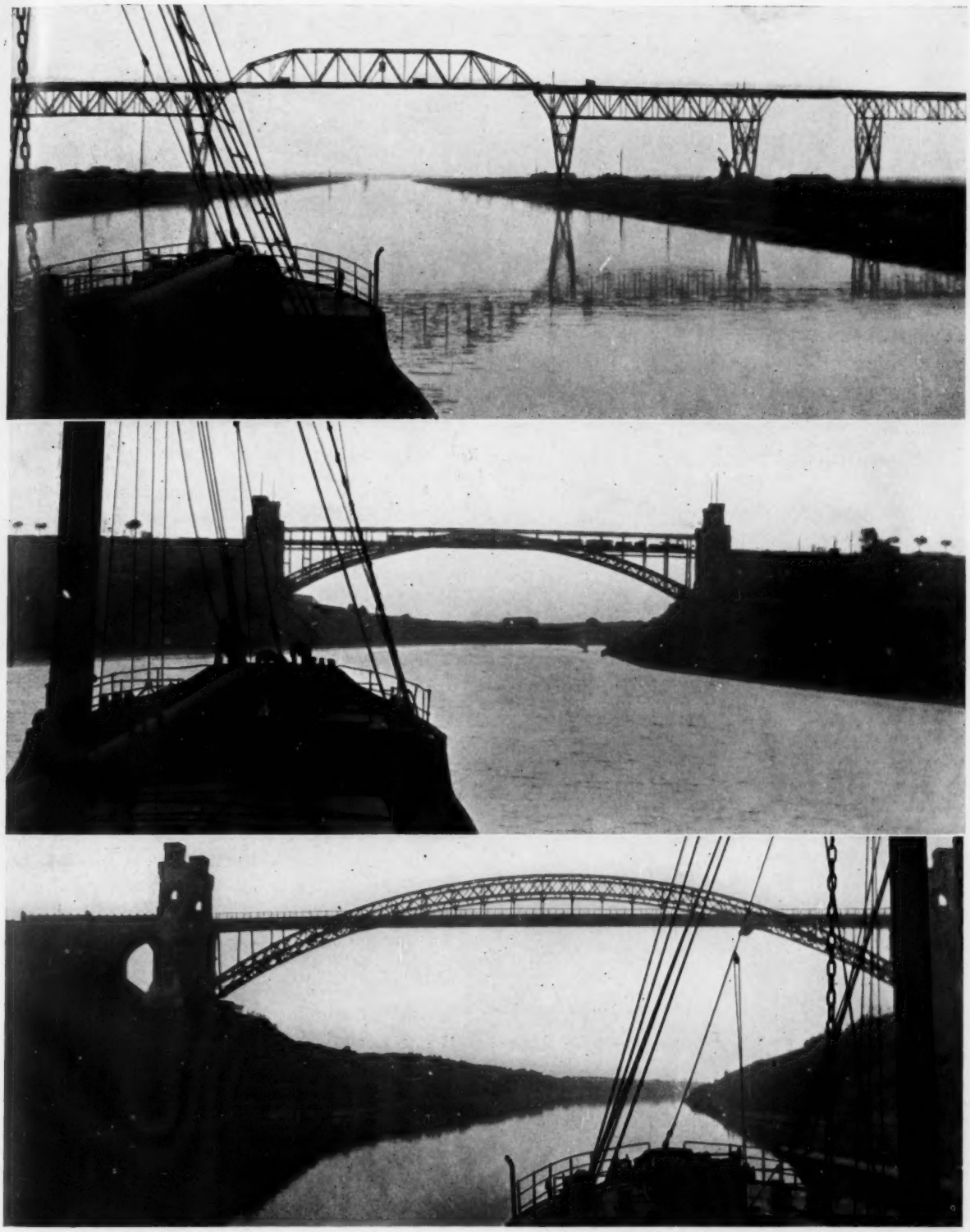


One of the most popular trains in the Northampton-Euston service is the 8.5 a.m. up, which conveys heavy business traffic into Euston. Recently the set train illustrated has been placed in the service and forms an ideal arrangement for traffic of the kind, enabling passengers to board the train at any door near where they may be waiting on the platform and then distribute themselves throughout the train wherever seats are vacant. Station stops are thus reduced to a minimum duration. The stock consists of standard L.M.S.R. centre gangway vestibule coaches, articulated in pairs, with the exception of the ninth vehicle, which is a standard first class bogie coach. The articulated pairs each measure 113 ft. 3 in. over buffers, and tare approximately 49 tons. The total seating accommodation in the train is 511 third and 54 first class, and the length over buffers is 627 ft.

Above: Interior view looking through length of train, showing third class accommodation

Left: Interior of first class accommodation

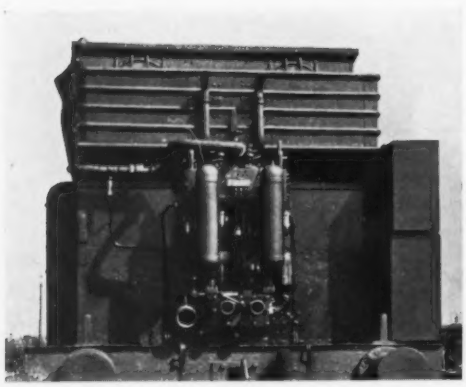
Kiel Canal Bridges



Three views of Kiel canal bridges taken by a British mercantile marine officer from his ship, of which the forecastle can be seen. Within recent weeks Kiel and neighbourhood have formed targets for a number of attacks by aircraft of the Bomber Command. In connection with previous R.A.F. attacks we published some notes and illustrations of Kiel canal bridges at pages 398 and 403 of our April 4, 1941, issue

XUM

British Railways and the War—80

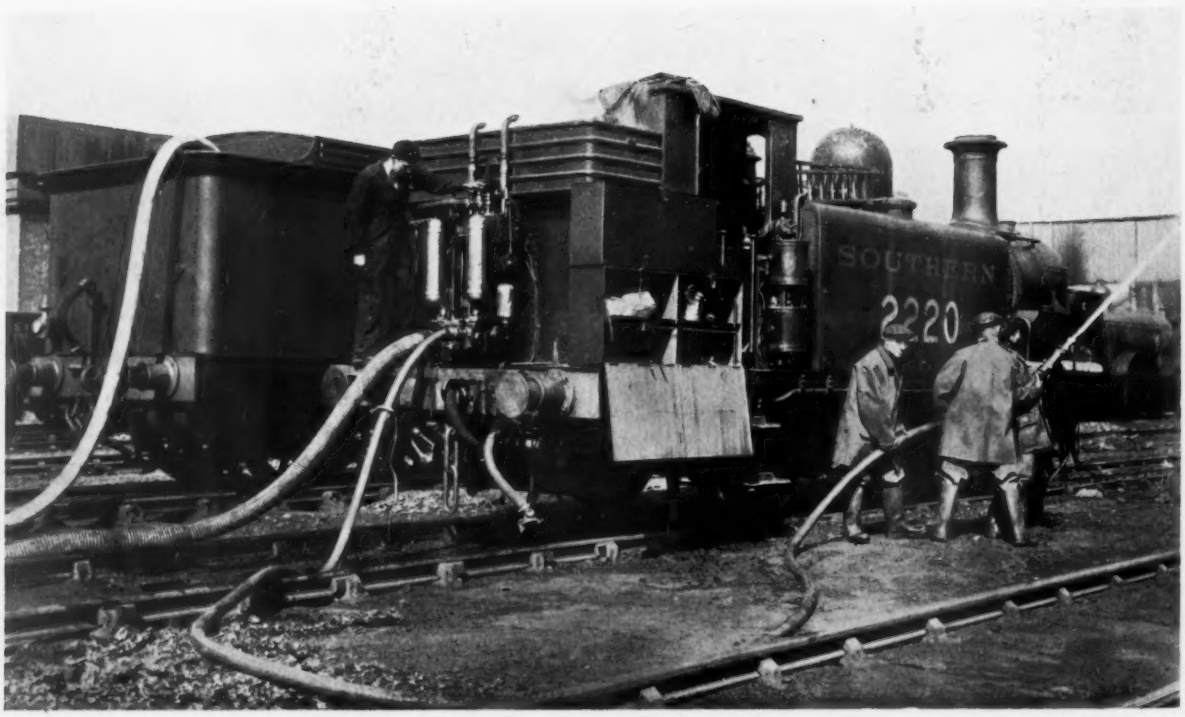


SOUTHERN RAILWAY FIRE-FIGHTING LOCOMOTIVES
(*See page* 174)

Above : Rear and front views showing arrangement of steam pump, delivery hose and other gear in steel compartments, and flexible suction pipe round front of locomotive

Left : Steam pump fitted over rear buffer beam

Below : A demonstration in progress ; water is being taken from the tender on the left



RAILWAY NEWS SECTION

PERSONAL

THE RAILWAY EXECUTIVE COMMITTEE

Colonel Llewellin, Parliamentary Secretary to the Ministry of War Transport, announced in the House of Commons on August 7 that Sir Ralph Wedgwood has resigned the chairmanship of the Railway Executive Committee, and is succeeded by Sir Alan Anderson, who also becomes Controller of Railways under the Ministry of War Transport in place of Mr. Gilbert S. Szlumper, until recently Railway Control Officer.

Sir James Milne, a Member of the Railway Executive Committee, has been appointed Deputy Chairman.

Lafayette

Sir Alan Garrett Anderson, G.B.E.

Appointed Chairman Railway Executive Committee and Controller of Railways, Ministry of War Transport

London

Sir Ralph L. Wedgwood, C.B., C.M.G.

Chief General Manager, L.N.E.R., 1923-1939, Chairman, Railway Executive Committee, 1939-1941

Sir Alan Garrett Anderson, G.B.E., was born on March 9, 1877. He was educated at Eton, a King's scholar, and afterwards at Trinity College, Oxford. He rowed for Eton in an eight that won the Ladies' Plate at Henley in 1895, and stroked for Trinity College fours that won races in 1896 and 1897. His father was Mr. J. G. S. Anderson, of Anderson, Anderson & Company, and his mother Dr. Elizabeth Garrett Anderson, the first English lady doctor of medicine. After leaving Oxford in 1897, he entered the office of Anderson, Anderson & Company (now Anderson, Green & Co. Ltd.), Managers of the Orient Line, of which he became a partner in 1900. He afterwards became also a Director and Deputy Governor of the Bank of England, and a Director of the London Midland & Scottish Railway Company. In 1916-17 he was Vice-Chairman of the Royal Commission on Wheat Supplies. During the last war he was Chairman of the Wheat Executive, which bought and regulated the supply of wheat and grain to Great Britain, France, and Italy, and for the arrangements in connection with this, he went to America with Lord Balfour in 1917. In 1917-18, he was Controller in the Admiralty, and later was Vice-Chairman of the Food Council. He was created a K.B.E. in 1917, and G.B.E. in the Birthday Honours List of 1934. Sir Alan was President of the Chamber of Shipping of the United Kingdom in 1924-25; President of the Institute of Marine Engineers in 1928; President of the Association of Chambers of Commerce in 1933-34; and Chairman of the Cereals Control Board in 1939. He is a Director of the Suez Canal Company, the Peninsular & Oriental Steam Navigation Company, the British India Steam Navigation Co. Ltd., and Anderson, Green & Co. Ltd. (until 1935 also Chairman). Although he has been a Director of the London Midland & Scottish Railway Company since 1923, and previously of the Midland Railway, Sir Alan has not been prominently identified with railway management; he has resigned from the L.M.S.R. in connection with his present appointments as Chairman of the Railway Executive Committee and Controller of Railways in the Ministry of War Transport.

Sir Ralph Lewis Wedgwood was born on March 2, 1874, and was educated at Clifton and at Trinity College, Cam-

XUM

bridge. He entered the service of the former North Eastern Railway in September, 1896, at the age of 22, under Sir George Stegmann Gibb. In 1898, he was transferred to West Hartlepool, and served in the Dock Superintendent's Office for some years, latterly as Assistant Dock Superintendent. He returned to York as an assistant in the office of the General Traffic Manager. On the re-organisation of the staff of the Traffic Departments in January, 1902, he was appointed District Superintendent at Middlesbrough, his first independent office. In January, 1904, he became Secretary to the company in succession to Mr. C. N. Wilkinson, but held this position for a short time only as, at his own request, he was re-transferred to the Traffic Department. In October, 1905, Mr. Wedgwood was appointed Northern Divisional Goods Manager with headquarters at Newcastle, and continued to serve there for six years. In connection with the re-arrangement of the work of the Goods Department on October 1, 1911, he was appointed Assistant Goods Manager with headquarters at York, and shortly afterwards, when Sir Eric Geddes became Deputy General Manager, Mr. Wedgwood succeeded him as Chief Goods Manager. In February, 1914, on the retirement of Mr. Philip Burtt from the position of Passenger Manager, Mr. Wedgwood also undertook control of the work of the Passenger Department while retaining his position as Chief Goods Manager. On the outbreak of war in 1914 he volunteered for army service abroad, and with the rank of Major, R.E., for a time acted as D.A.D.R.T. in the Transport Establishment in France. The Government then decided to use his services in the newly-formed Ministry of Munitions, and in July, 1915, he was transferred to that Ministry with the temporary rank of Lt.-Colonel. In October, 1916, he was appointed Director of Docks under the Director-General of Transportation (Sir Eric Geddes) with the temporary rank of Brigadier-General. He received the C.M.G. on June 4, 1917, and exactly a year later the C.B. During his service in France Mr. Wedgwood received the decoration of an Officer of the Legion of Honour, and was appointed a Commander of the Belgian Order of the Crown. He returned to the North Eastern Railway in June, 1919, and held the position of Chief Goods Manager and Passenger Manager, and in August, 1919, added to these offices that of Deputy General Manager. Mr. Wedgwood succeeded Sir A. Kaye Butterworth as General Manager of the North Eastern Railway at the beginning of 1922. Mr. Wedgwood was Chairman of the Goods Managers' Conference of the Railway Clearing House, 1920, and at different times gave important evidence before the Rates Advisory Committee on behalf of the railway companies generally. The prominent part which he took in connection with the passing of the Railways Act, 1921, left no doubt as to his suitability for the high office of Chief General Manager of the L.N.E.R. when that company came into being at the beginning of 1923 as the result of grouping. His name was included in the King's Birthday Honours in 1924, when he was given the honour of a knighthood. Unlike the other main-line railway companies, the L.N.E.R. adopted a divisional system of management with divisional general managers in charge of group areas corresponding approximately to one or more of the separate pre-grouping railway companies. Sir Ralph Wedgwood thus became the only officer in Great Britain bearing the title of Chief General Manager. He held this position for a period of 16 years and retired on March 3, 1939. On September 1, 1939, the Minister of Transport made an Order taking control of all the principal railway undertakings in Great Britain. He appointed the Railway Executive Committee to be his agent for the purpose of giving directions under the Order, and Sir Ralph Wedgwood was appointed Chairman, an office which he has held until the present time.

Mr. W. Y. Sandeman, Mc., B.Sc.
Appointed Engineer, Scottish Area, L.N.E.R.

Mr. W. Y. Sandeman, M.C., B.Sc., Assistant Engineer, Southern Area, London & North Eastern Railway, who, as recorded in our August 8 issue, has been appointed Engineer, Scottish Area, served his apprenticeship with a firm of consulting engineers in Edinburgh and joined the engineering staff of the North British Railway in 1913, as an Assistant in the Maintenance Department. After two years, he left to become an Assistant Engineer to the Port of London Authority and was in charge of constructional work at Victoria Dock. A few months later he received a commission in the Royal Engineers and served with a field company in France until the end of the war. He was awarded the Military Cross in the New Year Honours of 1918. After demobilisation, Mr. Sandeman rejoined the North British Railway as an Assistant in the Parliamentary & Constructional Department and was appointed Assistant in Charge of that Department of the Scottish Area of the L.N.E.R. in 1925. Three years later he became District Engineer, Northern District, Scottish Area, and in 1935 was transferred to Glasgow to take charge of the Western District. In February, 1937, he left Scotland to become Assistant to Engineer (General) of the Southern Area, and in the next year was made Assistant Engineer. Mr. Sandeman is a Bachelor of Science in Engineering of Edinburgh University and a Member of the Institution of Civil Engineers.

MINISTRY OF SUPPLY

Lord Beaverbrook has appointed a new Tank Board. The members are :—

Mr. Geoffrey Burton (Chairman) ;

Mr. Oliver Lucas, in charge of Design and Development ;

Mr. George Usher, Director General of Tank Supply.

In addition Major-General Macready, Assistant Chief of the General Staff, and Major-General Pope, Director of Armoured Fighting Vehicles, have been appointed to the Board by the Secretary of State for War.

Colonel Green of the Harriman Mission from Washington will advise the Board on design and production and he will act as Liaison Officer with the United States.

Major-General Crawford will be deputy to Mr. Usher.

Partnership changes are announced in the firm of Messrs. Thomson McLintock & Co., Chartered Accountants, by the retirement of Messrs. Thomson McLintock and John Kissane.

Mr. George Arthur Ashwell, Chief Clerk & Accountant, Dock Engineer's Department, Southern Railway, has been appointed Docks & Marine Accountant, Southampton. This appointment is a result of the amalgamation of the docks and marine accounts sections, hitherto operated separately.

TRANSPORT SERVICES AND THE WAR—102

Bank Holiday week-end traffic—Fire-fighting locomotives on S.R.—New timetables for L.N.E.R. and L.M.S.R.—Railways of Jugoslavia—Balkan railway reports—The Lisbon air mail

The heavy movement of passenger traffic over the Bank Holiday week-end, to which reference was made in THE RAILWAY GAZETTE last week, resulted in Questions being asked in the House of Commons. In reply Colonel Llewellin, Joint Parliamentary Secretary to the Ministry of War Transport, on August 6 said that the railway companies had been instructed that in accordance with the policy as to holidays generally no special facilities for travel should be provided and no extra trains should be run apart from those required to dispose of the overflow which could not be accommodated by the regular services. Despite the appeal not to travel, the number of passengers arriving at the stations had been far in excess of the capacity of the scheduled train service, and relief trains had been necessary to remove crowds of waiting passengers who had already paid their fares. He added that members of the House of Commons would be glad to hear that over the period as a whole there had been no hold-up of essential goods traffic. In reply to further Questions he said that the Minister had the power to deal with a situation of the kind which had arisen; the Government could have directed that no passenger trains at all should be run on the Bank Holiday or on the Saturday, but in fact, although it was not desirable that an extra number of persons should have travelled, there were sufficient trains to take them away. While some of these persons could get a holiday without interfering with essential railway traffic it would be right to allow trains to run and to allow people to take a holiday which many of them thoroughly deserved. Dealing with other points that were made, Colonel Llewellin said he did not think his Department could stop all passenger trains because of a certain shortage of coal and that there had been only one advertisement of special railway facilities for holiday makers in the newspapers; when the attention of his Department had been drawn to it, it had been found that it had got in by error and it had been stopped.

Salvage Redoubled!
Please help us to save more
PAPER TINS
CARTONS METALS
BONES and every kind of SCRAP
Put paper and cartons in the Station litter bins and hand any other scrap to the staff
SOUTHERN RAILWAY

The latest Southern Railway salvage poster

100-Mile Runs in Wartime

The annexed table gives a list of the runs exceeding 100 miles in length which are being made daily over British railways during the present summer. In the first winter of the war, the Paddington—Exeter run of the G.W.R. Cornish Riviera Limited took first place, but this is now handsomely beaten by the Motherwell—Crewe run of the L.M.S.R. Night Scot, 230·4 miles in length and by a considerable margin the longest non-stop run in the world made with steam power. Another very lengthy L.M.S.R. run not included in the table, because it is effective on Saturdays only, is that of the 11.35 a.m. from Euston to Blackpool, non-stop over the 194·0 miles to Wigan; and there are, of course, numerous additions to this list in every week-end working. It will be noticed that the list includes perishable and stock trains, as well as the normal passenger services. The L.M.S.R. total of daily runs from 105 to 230 miles in length is 42; the L.N.E.R. has 14 and the G.W.R. 12, making a total of 68 such schedules, there now being no 100-mile runs on Southern metals. Certain runs of passenger runs not publicly advertised (such as that of the G.W.R. Torbay Express from Paddington to Taunton) have been included in cases where they are being made regularly.

BRITISH DAILY NON-STOP RUNS EXCEEDING 100 MILES, SUMMER, 1941

Railway	Between	And	Distance	Fastest			No. of runs daily
				Train	Time	Speed	
			Miles		min.	m.p.h.	
L.M.S.R.	Motherwell	Crewe ...	230·4	9.53 p.m. U.	320	43·2	1
,,	Euston ...	Stockport ...	183·0	12.20 a.m. D.	222	49·5	¶1
,,	Euston ...	Wilmslow ...	176·9	5.40 p.m. D.	217	48·9	¶1
G.W.R.	Paddington...	Exeter ...	173·5	10.30 a.m. D.	210	49·6	2
L.M.S.R.	Crewe ...	Broad Street	162·5	11.55 p.m. U.	222	43·9	*1
,,	Crewe ...	Euston ...	158·1	3.56 p.m. U.	189	50·2	†10
,,	Crewe ...	Willesden ...	152·7	7.54 a.m. U.	216	42·4	*1
G.W.R.	Paddington	Taunton ...	142·7	1.15 a.m. D.	180	47·6	†3
L.M.S.R.	Crewe ...	Carlisle ...	141·0	3 trains D.	182	46·5	†16
,,	Crewe ...	Watford ...	140·7	6.17 p.m. U.	166	50·9	5
G.W.R.	Paddington	Newport ...	133·4	3.55 p.m. D.	162	49·3	†3
L.M.S.R.	Stoke-on-Trent	Watford ...	128·5	10.58 a.m. U.	151	51·1	1
L.N.E.R.	Newcastle ...	Edinburgh ...	124·4	11.12 a.m. D.	152	49·1	†3
L.M.S.R.	Carlisle ...	Stirling ...	117·8	4.43 p.m. D.	160	44·2	‡1
,,	Crewe ...	Bletchley ...	111·4	11.18 a.m. U.	146	45·8	1
,,	Euston ...	Tamworth§	110·0	11.00 p.m. D.	132	50·0	1
,,	Mossley Hill	Rugby ...	107·1	2.11 p.m. U.	136	47·2	1
G.W.R.	Paddington...	Bath...	106·9	10.35 a.m. D.	130	49·3	†2
,,	Taunton ...	Reading ...	106·7	6.28 p.m. U.	130	49·2	2
L.N.E.R.	King's Cross	Grantham ...	105·5	10.08 a.m. U.	127	49·8	†11
L.M.S.R.	Wigan ...	Carlisle ...	105·2	12.24 a.m. D.	141	44·8	1

*Perishable or stock trains. † In both directions. ‡ Not advertised.
§ Stop not advertised. ¶ Conditional train, usually run. D. Down: U. Up.

G.W.R. Women Staff

More than 8,000 women are now employed by the Great Western Railway, including 2,000 passenger and goods porters, 300 carriage cleaners, 800 waitresses and other hotel and refreshment-room staff, 50 dining-car attendants, as well as 4,000 clerks and typists. Women and girls are also employed as train announcers, ticket collectors, vangirls, inquiry clerks, train indicator board operators, level-crossing keepers, office messengers, and laundresses, while others are employed in drawing offices and in workshops as french polishers and seamstresses, as well as for printing railway tickets and repairing wagon sheets. Women are also being trained to take the place of men in workshops in several occupations.

Home Guard Travelling Facilities

Home Guards unable to travel to work on the normal workman's train services after their night on duty can now obtain workman's tickets after the usual hour for those services for travel by rail and London Transport train and trolleybus services on production of a certificate signed by their employer and the National Defence Authority. These certificates can be obtained from the railway companies and the L.P.T.B., through the Home Guard's employers. Members of the Home Guard can also obtain at stations of main-line railway companies third class return tickets, available for one month, at ordinary single fare and one-third for travel between their homes and places of employment on production of a certificate of *bona-fides* signed by their employer and showing the stations between which they travel. This

facility is not available on or over the L.P.T.B. system. Relatives of Home Guards who have been injured while on duty and taken to hospital can now obtain third class railway tickets at reduced rates when they wish to visit them. The concession is limited to two relatives on each visit. Exceptions are made, however, in the case of a wife accompanied by dependent children under 16 years. Children are charged half the reduced adult fare. The concession is not available outside Great Britain, nor on the L.P.T.B. system. To avail themselves of this new concession, relatives of Home Guards must produce the necessary Army form, which can be obtained from the injured man's unit, or on production of evidence that the injury was received on duty, from the Red Cross or the Soldiers', Sailors' & Airmen's Families Associations.

Southern Railway Fire-Fighting Locomotives

The very greatly increased wartime fire risks have naturally caused the Southern Railway to strengthen its fire-fighting equipment in many ways. It may be recalled that the weed-killing train which was placed in service in 1937* was converted into a mobile fire-fighting unit staffed by a squad of six trained men.† Recently it has been found necessary to restore this train to weed-killing activities, at any rate during the summer months, but meanwhile the company has materially strengthened its mobile fire-fighting equipment by fitting nine of the "D 1" class 0-4-2 Stroudley tank locomotives with steam pumps provided by Merryweather & Sons Ltd., of London and Greenwich, from existing stocks of pumps made many years ago for fitting to the old horsedrawn type of fire engine. Some of the pumps are of the well-known Merryweather Greenwich Gem type and others are the product of Shand Mason & Co. (latterly absorbed by Merryweather). We have recently had the opportunity of inspecting two of these fire-fighting locomotives, one with Merryweather Greenwich Gem pump, and the other with Shand Mason pump.

These fire-fighting locomotives became available only at the beginning of May last, but we gather that they have already proved their efficacy when certain of the Southern Railway premises have been affected by fires as the result of air raids. For example, we were told of an occasion when one was in action for a considerable period dealing with the large fire at one of the company's depots where it sufficiently demonstrated its usefulness for the purpose for which it had been equipped.

The Merryweather Greenwich Gem steam fire pump is of double-cylinder double-acting type, having a total delivery capacity of approximately one ton of water a minute at a pressure of 100/120 lb. per sq. in., and capable of throwing four powerful jets simultaneously. The pump end is of gun-metal with copper air vessels on the suction and delivery branches. Rubber disc valves are fitted, quick access to the whole of which is obtained by the removal of a single cover. A by-pass valve is provided so that any quantity of water from zero to the maximum output can be delivered under normal speed conditions. The steam supply is controlled by a master valve operated from the cab and a stop valve on the cylinders of the fire pump. The exhaust is taken to the atmosphere by two vertical pipes secured to the back of the coal bunker.

The question of an adequate supply of water, independent of mains, for the operation of the fire pumps is, of course, of primary importance. A limited supply is always available from the tanks of the locomotive, sufficient to prove serviceable for use at small outbreaks of fire, but the arrangement is that the primary supply be obtained from the normally large tanks or tenders always available in railway yards and depots, supplemented by emergency water supplies placed at strategic points. Three 20 ft. lengths of flexible suction pipe are carried in fixtures round the front of the locomotive, to allow of any considerable source of supply being used. A sufficient quantity of delivery hose and other fire-fighting gear is stowed in steel compartments on the right-hand side of the locomotive alongside the bunker tank.

To make these fire-fighting locomotives available for use at lineside points away from depots, the Southern Railway is equipping a number of tank trains consisting of six standard trucks carrying rectangular water tanks, coupled with flexible hosepipes and capable of being connected directly to the suction inlet of the pump, with shut-off valves, entirely frost-proof on each tank. Pending the delivery of these trains, arrangements have been drawn up for a sufficient number of engines with large-capacity tenders to be available immediately, for this purpose, on demand. The largest tenders afford a supply which will last for approximately half-an-hour, enabling, in the majority of cases, the requisite turn-round for a constant supply of water to be effected by the use of two engines only, in addition to the fire-fighting locomotive.

* Illustrated and described in THE RAILWAY GAZETTE, July 23, 1937, pp. 152-155.
† See THE RAILWAY GAZETTE of July 5, 1940, pp. 14 and 18.

New L.N.E.R. and L.M.S.R. Timetables

New summer timetable books, operative from July 28, have been published by the L.N.E. and L.M.S. Railways. The most important development on the L.N.E.R. is in the through services between the Eastern Counties and the North. New daily express trains leave Colchester at 1.45 p.m. for Leeds, and at 6 p.m. for Edinburgh, running *via* Ipswich, Bury St. Edmunds, Ely, Peterborough, and the East Coast main line. The former is a prolongation from Peterborough of a service already in operation between Colchester and Peterborough, but the latter is a new service throughout; Leeds is reached at 8.43 p.m., and Edinburgh at 5.55 a.m. In the reverse direction the Leeds-Colchester train leaves Leeds Central at 10.30 a.m., and reaches Colchester at 5 p.m.; the Edinburgh-Colchester service leaves Waverley at 10.30 p.m., and is due in Colchester at 10 a.m. These new facilities are additional to the daily Colchester-York buffet car express *via* Bury, March, Lincoln, and Doncaster, leaving Colchester at 7.20 a.m., and York at 3.10 p.m., and to the popular through buffet service between Newcastle and Ashford (Kent), *via* Sheffield, Nottingham, Leicester, Banbury, Oxford, Reading, and Guildford.

On the L.M.S.R. the 9.37 a.m. train from Blackpool Central to Euston, with through section from Barrow at 8.45 a.m., due Euston at 4 p.m., which hitherto has run at week-ends only as a relief to the 8.30 a.m. from Carlisle to Euston, is running daily, with restaurant car from Blackpool, which returns to Blackpool on the 10.25 a.m. from Euston. There are thus three through restaurant car trains in each direction daily between Euston and Blackpool, as compared with one only before the war. On Saturdays till the end of August the 10.25 a.m. from Euston is run in triplicate, the first portion for Carlisle in the usual times, the second at 11 a.m. for North Wales, and the third at 11.35 a.m. for Blackpool and Barrow; the last-named is booked non-stop over the 194 miles from Euston to Wigan. All three are restaurant car trains. An interesting L.M.S.R. development is that the afternoon residential express from Manchester to North Wales is starting from the Manchester South Junction & Altrincham platform at London Road at 4.18 p.m., instead of from Exchange at 4.25 p.m., using the spur from the M.S.J. & A. at Oxford Road to Ordsall Lane, and calling at Cross Lane to pick up. In the reverse direction the 7.25 a.m. from Llandudno similarly runs to London Road.

Special Concessions Withdrawn in Eire

Owing to the curtailment of train services, the Great Southern Railways Company has withdrawn, from Sunday, July 13, the special concessions hitherto granted to commercial travellers.

Baltic Ferry Suspended

It was stated on July 16 that the train ferry service between Sassnitz and Trelleborg has been suspended.

Franco-Swiss Rail Traffic Resumed

Rail traffic between France and Switzerland was resumed on July 26, trains again running between Geneva and Bellegarde.

Luxembourg and Alsace-Lorraine

All names of stations in Luxembourg, Alsace, and Lorraine have been officially altered to the German forms by the Reichsbahn, in consultation with the local German govern-

XUM

ments. Stations with names similar to others in Germany have the word Luxemburg, Elsass, or Westmark added.

French Locomotive Industry Busy

According to Radio Paris on August 1, authoritative circles state that the French locomotive industry is engaged on an order for the construction of 400 locomotives. Part of the order is in hand and further orders are expected. The execution of the programme is expected to take until 1947. The conditions and capacity of the French locomotive industry after the partition of the country were described at pages 83-84 of our July 25 issue.

Railways and the Partition of Jugoslavia

There still seems to be considerable uncertainty about the precise form of dismemberment of Jugoslavia which is being effected by the Axis powers. Various announcements (recorded from time to time in these columns) have been made about the annexation of portions of Jugoslav territory by Germany, Italy, Hungary, and Bulgaria; and the establishment of a separate state of Croatia under an Italian monarchy. This still leaves a section of territory to Jugoslavia corresponding approximately with that of Serbia in 1912.

The bridge across the Save outside Belgrade has been repaired and the railway between Belgrade and Zimony was reopened on June 12. This is a section of the main line from Belgrade to Zagreb, Italy, Austria, and Hungary.

An agreement settling new frontiers between Italy and Germany, rendered necessary by the partitioning of Jugoslavia, was signed by Italy and Germany in Berlin on July 7 by the Italian Ambassador and the German State Secretary for Foreign Affairs. The new Italian-German frontier coincides with the former Italian-Jugoslav frontier as far south as a point south of Sairach, about 20 miles due west of Ljubljana; it then runs eastwards to a point where the Italo-German and Croatian frontiers meet.

The frontiers of Croatia still seem to be the subject of dispute between the new Croatian government and its various neighbours. It was announced on July 9, for example, that the administration of the towns and villages in the Mura territory between the Hungarian frontier and the Mura River, an area of 700 square kilometres, has been officially taken over by the Hungarian Army. Army spokesmen explain that the ownership of this territory, which has been in dispute between Hungary and Croatia, has thus been settled in favour of the former.

Railway frontier stations are multiplying with rapidity in Central Europe with the creation of Axis satellite states. Recent additions to the long list are the following stations on some of the frontiers of what is called the Independent State of Croatia (Nezavisna Hrvatska Država) :—

Dobova, between Croatia and the German-annexed north-western border of Jugoslavia, on the double-track main line from Zagreb to Ljubljana, only 17 miles west of Zagreb.

Rogatec (which the Germans have named Rohitsch) on the same border, but on the railway branching off from the main line at Zapresic (west of Zagreb) and leading north-westwards to Grobelno on the main Ljubljana-Vienna line. The rail distance between Zagreb and Rogatec is 48 miles.

Poljčane, 77 miles to the north of Ljubljana on the Ljubljana-Budapest main line became overnight the frontier station between those regions of Slovenia which Germany and Italy shared between themselves.

Gornji Dolič is the frontier station between the same German and Italian-seized zones on the line leading from Celje (east of Ljubljana) in a north-westerly direction to Dravograd-Meža, the frontier station on the former border between Jugoslavia and Austria. Gornji Dolič (which the Germans call Ober-Dolitsch) is 32½ miles from Celje and 87½ miles from Ljubljana.

The express passenger and goods services *via* these new frontier stations were resumed on May 15.

On the Zagreb-Budapest main line, Gyekenyes, 64½ miles to the north-east of Zagreb, still fulfills its role as a frontier station, although now not between Jugoslavia and Hungary but between Croatia and Hungary. At the frontier station of Barcs, to the south-east of Gyekenyes a similar position obtains. Still further to the south-east, Osijek (21 miles to the north of Vinkovci the well-known junction station of the Belgrade-Istanbul and Bucharest sections of the one-time Simplon Express) was adopted as a frontier station between Croatia and the Hungarian-occupied region of Jugoslavia.

Fare Increases in Roumania

A substantial increase in passenger fares, in some cases amounting to 30 per cent., was introduced on the Roumanian State Railways from May 15; further increases on some sections came into force on June 1.

Balkan Railway Notes

The Slovak State Railways administration, in conjunction with the electricity supply organisations in that country, is stated to be considering plans for main-line electrification as a matter of urgency.

It was reported from Ankara on July 29 that the German military authorities in Bulgaria have prohibited civilian traffic on the north-south railway line between Rouschouk on the Roumanian frontier, and Stara Zagora, where the line joins those leading to Plovdiv and the Turkish frontier.

An indication that rail traffic between the Bulgarian frontier and Istanbul is still disrupted as a result of the Greek destruction of rail bridges when the Germans began their advance into Thrace, is given by the report that Soviet Ministers and staffs from Slovakia and Hungary (totalling 144) reached Istanbul on July 12 by bus from the Bulgarian border.

Hungarian Railway Locomotive Stock

It is said that, except for a number of Czecho-Slovak locomotives, no appreciable increase in locomotives accrued to Hungary as a result of the increase of about 61 per cent. to the mileage which we recorded at page 96 of our July 25 issue. Of the 582 locomotives normally allotted by the Roumanian State Railways to the portion of Transylvania now under Hungarian control, only 14 were secured. For normal peacetime requirements, Hungary (with her present frontiers) is said to be short of about 1,400 locomotives.

Italian Railways

Rome messages, dated July 16, state that every day 14 trains loaded with Italian troops are passing through Vienna on the way to the Russian front.

As a result of R.A.F. raids on July 9 and 10, main-line railway traffic between Naples and Rome is stated to have been suspended and Naples Central station closed to the public for four days. This was said to have been caused by British bombs hitting a military train in the station, and ammunition cars attached to it blowing up, wrecking the tracks and part of the buildings.

Peru and Ecuador Hostilities End

Border warfare between Ecuador and Peru was renewed on July 23. As a result of requests on July 26 by the Governments of the Argentine, Brazil, and the United States of America, to suspend hostilities which first broke out on July 5, it was announced by the Peruvian Government that it had acceded to this request on condition that Ecuador should offer guarantees, and order general demobilisation. The Ecuadorian Government offered these guarantees and decreed demobilisation on July 31. The cease-fire was effected at 6 p.m. on that day.

The Lisbon Air Mail

Lisbon has assumed such a position of importance as neutral clearing point for international mail that a daily air service is now maintained between England and Lisbon. The mails are carried by the aircraft of the British Overseas Airways Corporation, the chosen instrument of the Government for the maintenance of essential air communications in wartime. The Lisbon service was begun in June, 1940, by Frobisher landplanes calling at Bordeaux on the way. When France fell, flying-boats had to be substituted which could make the journey of more than a thousand miles non-stop. The landplanes of K.L.M. under charter to British Airways, have since supplemented the flying-boat service; they, too, do the journey non-stop. Throughout the Battle of Britain and the severe winter, these civil aircraft, unarmed and unescorted, continued to fly between this country and Portugal. Not a single letter has been lost.

XUM

PARLIAMENTARY NOTES

Accommodation on Trains

Mr. J. Tinker (Leigh—Lab.) on the motion for the Adjournment of the House of Commons on July 31 raised the question of third class railway travel. He said his idea was to try, during the war period, to have one class only, so as to use all the available space in railway carriages. On each side of a third class compartment six persons could be seated, and on side of a first class compartment four persons. He claimed that if every railway carriage was made to accommodate six on each side, and if anybody was allowed to enter both first class and third class compartments, they would at a time like this be serving the interests of all concerned. On the long-distance journey corridor train the position was even worse, because then one proceeded along, not daring to enter a first class compartment. If the corridors were crowded and you did not get into a first class compartment, when the train got to the last station but one from its destination the ticket inspector was in duty bound to leave sufficient room in the first class compartments for the first class passengers who might get on at the next station. People getting on at the last station but one before the end of the journey and trying to get into a first class compartment, even though the others were crowded, were told that they were not allowed to do so because there would be first class passengers at, say, Crewe, who were entitled to a seat in a first class carriage. After leaving Crewe, if there happened to be room, you would probably get a seat in a first class compartment.

Dining Cars

They were not making use of all the space. He witnessed an incident on Monday when travelling on the train. He was passing along to the dining car and in front of him was a third class passenger. When they reached the third class dining car, an attendant, on ascertaining that this man had a third class ticket, said, " You cannot go into the third class ' diner ' ; it is full up. If you are a first class passenger there is plenty of room." All that led to congestion and waste of time, and more than that, the bitterness of feeling which existed among third class passengers that this should go on during the war period. In the case of soldiers, they were not expected to travel first class. A soldier got into a train, had nowhere to put his kit, there was no room in the corridor, and if there was room in the first class accommodation it was not the thing for him to go there. There was that sharp line of distinction. There might be some argument about the revenue which first class passengers paid. It might be said that if that revenue were not there, the railway company would suffer. As regarded the expense, the question of money, now, had to him, no bearing on the matter at all. It was a question of getting the best out of the people to win the war. If the first class passenger did not spend his money on a first class ticket he would have so much surplus to invest in war savings and war loans. His main object was to give the vast mass of our people the idea that, in a war of this kind, everyone was equal.

Mr. J. H. McKie (Galloway—C.) said that during 1940 he made 66 journeys to Scotland and back, many of which were made by day, but during the present year he had travelled almost entirely by night. During his journeys by day he had not had the same experiences as Mr. Tinker. It was true that for a time there was considerable overcrowding and congestion in long distance corridor trains. For all the use dining car facilities were to ordinary passengers, whether first class or third, they might just as well be abolished. If they were abolished it would provide some additional seating accommodation for ordinary passengers in the long distance trains.

Mr. S. S. Silverman (Nelson and Colne —Lab.) said he had been involved in controversy with a certain railway company arising out of things he had seen at railway stations and things of which he had been the victim. He did not pretend that the railway companies had not got a case. He thought they had. They had been running under very great difficulties, and, taking all things into account, they had not made such a bad job of it. When they said that, having taken a first class passenger's money for a first class fare they were under an obligation to see that he got what he paid for, it was a point of view with which everybody could sympathise. But he did not think that was the difficulty. The point was that, under conditions of travelling as they existed at the present time, the railway companies were not physically in a position to give to the first class railway passenger the accommodation for which he had paid, and which was the subject of the contract without being unfair to a large mass of citizens who also had paid for certain facilities which they did not get. The only way in which the situation could be met was by abolishing the distinction between the two classes, and allowing everybody to take his chance, certainly on short journeys without distinction of class and without pretending to give to one section of the community an advantage arising purely out of its greater financial resources.

The Government Reply

Colonel J. J. Llewellin (Joint Parliamentary Secretary to the Ministry of War Transport) in reply said that on the question of long distance trains it was not now the people who could afford to pay who for the most part travelled first class, but people, like Members of that House, officials, officers and other people of that sort who occupied most of the first class accommodation. It was not only that they had a private compartment in which to do some work, but it was also that they could be pretty certain of a seat if they turned up only a few minutes before the train started. If there was no first class accommodation, those people would have to turn up at the station a great deal earlier. He did not think, in regard to long distance trains, there was any immediate intention of taking over first class compartments.

Long and Short Journeys

There had been instructions issued to allow first class compartments to be filled in corridor trains when the third class compartments were full. With regard to the suburban lines, the London Passenger Transport Board, except in some trains on the Metropolitan line, had for some time abolished first class compartments. He thought the Ministry could do something on the short distance suburban trains, especially for Londoners, and that would be looked into very carefully. There would be some complications with regard to the main line long distance trains which also stopped at one or two intermediate places not far from London, and it might be that there would have to be some first class tickets issued so that people could travel first class on those long distance trains if they wanted to do so.

As to the announcement that sleepers and restaurant cars might have to be taken off, there was no immediate need to do that. Personally, he thought that as long as they could continue those amenities of travelling, they should do so. The railway companies were doing their best in the restaurant cars, considering the difficulties of food rationing, and he thought that, generally, a number of people at any rate could get to the restaurant cars and get a meal. If they were taken off, he was afraid there would be no question of stopping the trains for any length of time at intermediate stations. When winter came, and shorter hours of daylight and longer hours of black-out were with them, and in air raid conditions they could not run the trains at the speed that they would like, and there was bound to be a slowing down of traffic.

It had been a disappointment to the Ministry that it had not been possible to stock coal during the summer. If the programme which the Minister of Labour, the President of the Board of Trade, and the Minister of Mines all hoped to see accomplished came off, they would have the greatest difficulty at the Ministry of War Transport in the winter in carrying that amount of coal. They would do their best, but in doing it they might have to take off some facilities, perhaps sleepers, perhaps restaurant cars, and perhaps whole passenger trains as well, which used to be enjoyed, so that people in the cities and the munition factories could get the coal and the munitions that they needed.

QUESTIONS IN PARLIAMENT

Mersey Docks Charges

Mr. A. Edwards (Middlesbrough East—Lab.), on July 29, asked the Chancellor of the Exchequer whether he was aware that the Ministry of War Transport had sanctioned an increase of 60 per cent. in the Mersey Docks & Harbour Board's town dues and dock rates as from July 2; and, as this was in conflict with the policy of the Government, what steps he was taking to prevent a consequent increase in the cost of many Government purchases.

Sir Kingsley Wood (Chancellor of the Exchequer) replied that the Minister of War Transport consulted him before agreeing to the increased charges. The matter was fully examined in relation to the policy which he announced in his Budget speech, and in view of the extent to which essential goods were now imported on Government account, he was satisfied that the increased charges would not be reflected in the prices of such goods to the consumer. There was no conflict with the policy of the Government.

Coal Supplies for Public Utilities

The Secretary of Mines, on July 29, in answer to Mr. C. T. Culverwell (Bristol West—C.), stated that he could not give a guarantee that all public utility undertakings could be supplied with enough coal for the next six weeks. The average amount in stock by public utility undertakings, gas, electricity, and water, was about a six-week supply at the summer rate of consumption, but those stocks were not evenly distributed and there was a number which did not hold a fortnight's stock. There had been a marked increase in the rate of stocking of coal on the part of public utilities—notably gas works—in the past few weeks, he concluded.

Heysham-Belfast Steamer Service

Dr. James Little (Down—C.), on July 29, asked the Parliamentary Secretary to the Ministry of War Transport whether, in order to lessen the time required for the journey from London to Belfast, *via* Heysham, which was causing much discontent, he would arrange for the train from Leeds to arrive at Heysham shortly after the train from London, thus obviating a considerable wait there.

Colonel J. J. Llewellin stated that he was informed that the intervals between the arrival of the three trains connecting with the boat from Heysham were arranged so as to ensure sufficient time for the completion of the formalities necessary before embarkation, and that it was impracticable to reduce the interval between the arrival of the first train and the sailing of the boat. It was not in the general public interest or n the particular interest of passengers on these boats to discuss in public the times of sailing.

Priority of Traffic

Mr. John Wilmbt (Kennington—Lab.) on July 30 asked the Parliamentary Secretary to the Ministry of War Transport whether the railways were still required, as common carriers, to accept any goods tendered to them for transport; and whether he would ensure that essential materials had priority over other classes of traffic.

Colonel J. J. Llewellin said the obligations of the railway companies as common carriers were subject to the power of the Minister of War Transport under the Defence Regulations to control the transport of goods of any description. Instructions had already been given to the railway companies to accord priority to certain classes of traffic.

R.E.C. Chairmanship

Mr. J. F. E. Crowder (Finchley—C.), on August 7, asked the Parliamentary Secretary of the Ministry of War Transport whether any change was contemplated in the composition of the Railway Executive Committee.

Colonel Llewellin: Yes, Sir. The Minister of War Transport has accepted with regret the resignation of Sir Ralph Wedgwood, C.B., C.M.G., from the Chairmanship of the Railway Executive Committee, a position which he has held since the formation of the committee, on the outbreak of the war. I am glad, however, to be able to inform the House that we have been able to secure the services of Sir Alan Anderson, G.B.E., as Chairman of the Railway Executive Committee. He will also hold the new post of Controller of Railways in the Ministry of War Transport. On his new appointment, Sir Alan Anderson has retired from the board of the London Midland & Scottish Railway Company. Sir James Milne, at present a member of the Railway Executive Committee, has been appointed Deputy Chairman.

Mr. Crowder asked the Parliamentary Secretary if the post of Chairman, which had been accepted by Sir Alan Anderson, would carry any salary.

Colonel Llewellin replied that it would not. Formerly that position did carry a salary, but Sir Alan Anderson had expressed his wish to give his services to the country in that way durng the war without taking any salary.

Mr. E. Shinwell (Seaham—Lab.) asked if it was not the case that Sir Alan Anderson had always been connected with shipping. Did he possess the important qualifications required for this job?

Colonel Llewellin said it was quite true that Sir Alan Anderson had had many and varied activities, certainly shipping, and it was because he was a man of that large business experience that they felt themselves lucky to have secured his services in that post.

Earl Winterton (Horsham and Worthing—C.) asked if the rule which was rigidly applied to the Civil Service of a retiring age applied in the case of these wartime appointments, and what was Sir Alan Anderson's age.

Colonel Llewellin said he had no idea.

A Member: About 70.

Colonel Llewellin said that despite that, he was still an extremely active and fit man. After all, the Prime Minister was of about the same age.

Earl Winterton said that did not specifically answer his question. Was there any such rule, or did the age limit apply only to the Civil Service?

Colonel Llewellin said there was no such rule. They appointed the best man so long as he was active and best fitted for the position. They felt that Sir Alan Anderson was so fitted.

Mr. F. C. Watkins (Hackney Central—Lab.) inquired whether the change in the Chairmanship of the Railway Executive Committee involved any change in the policy of the committee, and would they co-ordinate the four railway companies into one unified railway system.

Colonel Llewellin said that during the war they at the Ministry of War Transport were in control of the railway companies, and their endeavour, through the Railway Executive Committee and through their new Chairman, who was to be Controller of Railways, would be to see that they worked together as a whole to give the best service possible to the country.

Mr. Watkins asked the Parliamentary Secretary if he knew that the four separate undertakings still retained their own individual point of view and maintained it, and that that ought to be removed from railway working, and the whole of the railways co-ordinated into one unified system. Would that be done?

Colonel Llewellin replied that at present for war purposes they were working together. It was quite true that each staff was operating its own railway. Some railways were operating partly from the districts as well as from London. They were working very well together at the present moment, and, he was certain, would continue to do so and to give the best service possible.

Sir Frank Sanderson (Ealing—C.) said that this appointment would give universal satisfaction throughout the industry.

Mr. G. Le M. Mander (Wolverhampton East—Lib.) asked what relation the appointment had to the new railway agreement that was being negotiated at the present time.

Colonel Llewellin said that the railway agreement was a financial matter. This was a matter of operating the railways.

XUM

Notes and News

Collision in Poland.—A reported collision between a goods train and a troop train near Warsaw recently is said to have involved 200 casualties.

Temiscouata Railway Bondholder's Committee. Particulars of the gross earnings and operating expenses of the Temiscouata Railway for the month ended May 31, 1941, received from the head office at Riviere du Loup, as compared with the month of May, 1940, are as follow : gross earnings $22,460 ($16,285); operating expenses, $20,635 ($16,786).

Great Southern Railways (Eire).—For the 30th week of 1941 the Great Southern Railways Company reports passenger receipts of £52,217 (against £51,229), and goods receipts of £50,522 (against £51,391), making a total of £102,739 (against £102,620) for the corresponding period of the previous year. The aggregate receipts to date are passenger £1,158,939 (against £1,004,407), goods £1,495,204 (against £1,364,171), making a total of £2,654,143 (against £2,368,578).

The Karlskrona-Växjö Railway.—In addition to the railway enumerated on page 308 of our issue of March 14 last, the Karlskrona-Växjö Railway Company was incorporated in the Swedish State Railways system as from July 1. The company owns 71 miles of standard-gauge line between Karlskrona and Växjö. By the link Växjö Alvesta, 11 miles long and owned by the Växjö-Alvesta Railway Company, connection was made by the former line with the State Railways main line between Malmö and Stockholm.

Derailment on the Gotthard Line.—A serious accident on the Gotthard main line occurred on July 29, according to a Reuters report, an entire freight train becoming derailed at the entrance to Pianotondo tunnel, halfway between Airolo and Bellinzona on the southern approach to the Gotthard tunnel. Pianotondo is the upper of the two completely spiral tunnels in the famous stretch of line near Giornico, where three levels of track run along the mountain side one above another ; the mouth of the tunnel was completely blocked, and six wagons rolled down the precipitous mountain slope, wrecking and setting fire to a military guard house, in which three soldiers were killed. The locomotive ran away down the 1 in 43 gradient, and crashed into and partly derailed another freight train near Giornico. Altogether five lives were lost, and the blockage of both up and down lines took several days to clear.

Slough Accident : Inquest Concluded.—The Coroner at Slough recorded a verdict of accidental death at the inquest on July 31 on the bodies of the five persons killed in the collision at Dolphin Junction signal box, G.W.R., on July 2, when an up passenger and down goods-train met at the diamond of the crossover junction. The jury added a rider that the accident might have been prevented had the goods train been drawn by a G.W.R. engine instead of one on loan from the L.M.S.R., as the former would have been fitted with A.T.C.

The Trelleborg Railways.—The Malmö-Trelleborg Railway Company owns the 20-mile Malmö-Trelleborg standard-gauge line returned a working profit for 1940 of Kr. 248,760, more than double as much as in 1939 (Kr. 117,236). After taxation, there was a net profit of Kr. 73,212 (against Kr. 6,853 in 1939). The Trelleborg-Rydsgård Railway Company, a subsidiary company which owns the 22-mile standard-gauge Trelleborg-Rydsgard line, on the other hand, records a working profit for 1940 of only Kr. 133,500 (against Kr. 155,653 for 1939) and a net profit of Kr. 34,943 (Kr. 54,433 in 1939).

Lord Leathers Entertained by Road War Savings Committee.—Mr. Shrapnell-Smith, Chairman of the War Savings Committee of the Road Transport Industry, gave a luncheon on August 6 at the Royal Automobile Club, to members of the Road War Savings Committee, to meet the President, Lord Leathers. The other guests were :—

Sir Theodore Chambers, Sir Albert Clavering, Mr. C. H. Batty, Mr. F. G. Bristow, Mr. G. H. Brooks, Mr. Harold Clay, Lt.-Colonel J. Sealy Clarke, Mr. G. Moxon Cook, Major H. E. Crawfurd, Mr.W. Edwards, Mr. S. H. G. Hughes, Mr. E. C. H. Jones, Sir Joseph Nall, M.P., Mr. James Paterson, Alderman A. Rudd, Major R. A. B. Smith, Mr. J. H. Turner, Mr. T. Williamson, Mr. J. S. Wills, and Mr. F. N. Withers. Lord Kindersley and Lord Mottistone were unable to accept, owing to prior engagements out of town.

Cost-of-Living Bonus in Canada.—Mr. McLarty, Canadian Minister of Labour, at a recent press conference, announced that the Dominion Government was of opinion that all railway workers in Canada should receive a cost-of-living bonus of $1.93 (about 9s. 6d.) a week, despite the fact that two Conciliation Board majority reports had recommended that it should apply only to workers earning $25 a week or less. The Government proposed to issue an Order in Council to the effect that basic wages should not be increased and that increases in cost of living should be covered by bonuses ; an arrangement with which the unions had agreed. The Government must keep faith, the Minister said, and insist that the bonus should apply to higher as well as lower paid staff.

L.M.S.R. Ambulance Centre.—Among recent promotions in the Venerable Order of St. John of Jerusalem is that of Mr. W. E. C. Lazenby, Assistant Chief Officer for Labour & Establishment, L.M.S.R., who has been promoted to the grade of Knight. Mr. Lazenby, who is the Chairman of the L.M.S.R. Ambulance Delegates Conference, represents the company on the committee of the St. John Ambulance Association. For six years he represented the four group companies on the Chapter General of the Order and also on the council. Mr. Lazenby's promotion is a compliment to the splendid work of the large number of L.M.S.R. staff belonging to the L.M.S.R. Centre of the St. John Ambulance Association as well as recognition of the long period he has been connected with the administration of the First Aid Movement on the L.M.S.R.

British and Irish Railway Stocks and Shares

Stocks	Highest 1940	Lowest 1940	Prices Aug. 8, 1941	Prices Rise/Fall
G.W.R.				
Cons. Ord.	52	22¼	37	− ¼
5% Con. Pref. ...	103½	58	99½	− ½
5% Red. Pref. (1950)	105½	88	103	− 1
4% Deb.	107½	90½	106½	+ ½
4½% Deb.	108½	96¼	109	− 2
4½% Deb.	114½	96	115½	—
5% Deb.	124	106	129	—
2½% Deb.	66½	57	66	—
5% Rt. Charge ...	117½	97	124½	− 1
5% Cons. Guar. ...	117	90½	120½	− ½
L.M.S.R.				
Ord.	24⅞	9	14½	− ¼
4% Pref. (1923) ...	60½	21⅛	45½	+ 2¼
4% Pref.	70⅛	35	60½	+ 1
5% Red. Pref. (1955)	94½	60	85½	+ 1
4% Deb.	101⅛	81	101½	+ ½
5% Red. Deb. (1952)	109½	102	108	—
4% Guar.	93⅛	65	93½	− ½
L.N.E.R.				
5% Pref. Ord. ...	8⅛	1½	3	+ ⅛
Def. Ord.	4⅛	1⅛	1⅜	+ ⅛
4% First Pref. ...	60	20	44½	+ 1½
4% Second Pref. ...	22⅞	6½	16½	—
5% Red. Pref. (1955)	80	34½	69½	+ 1
4% First Guar. ...	86½	56	84½	− ½
4% Second Guar. ...	77½	37	73½	− 1
3% Deb.	73½	54½	75½	+ ½
4% Deb.	97⅜	74	100½	—
5% Red. Deb. (1947)	107	96½	104	—
4½% Sinking Fund Red. Deb.	104	98	101½	—
SOUTHERN				
Pref. Ord.	79	34	55½	+ 1½
Def. Ord.	22½	7	12½	− ½
5% Pref.	104½	58⅛	97½	—
5% Red. Pref. (1964)	105	85	103½	− 1
5% Guar. Pref. ...	116⅛	90	121½	+ ½
5% Red. Guar. Pref. (1957)	114⅞	94	111½	− 2
4% Deb.	106⅛	84½	104½	+ ½
5% Deb.	122½	100	126½	—
4% Red. Deb. (1962–67)	106	96½	105	—
4% Red. Deb. (1970–80)	106⅛	93	105	—
FORTH BRIDGE				
4% Deb.	95½	87	94½	—
4% Guar.	93½	81½	94½	—
L.P.T.B.				
4½% "A"	116	103	113½	—
5% "A"	121½	107	123½	—
4½% "T.F.A." ...	105½	101	101½	—
5% "B"	116	102	109½	+ ½
"C"	65½	24	38½	+ 2½
MERSEY				
Ord.	26	18½	20½	—
4% Perp. Deb. ...	92½	86⅛	92½	+ 1
3% Perp. Deb. ...	68	63	66½	—
3% Perp. Pref. ...	57	50½	56	—
IRELAND				
BELFAST & C.D.				
Ord.	4	3	4	—
G. NORTHERN				
Ord.	4½	1½	7	+ ½
G. SOUTHERN				
Ord.	12½	4	5	− 3
Pref.	15½	6	7½	− ½
Guar.	36	15	23	—
Deb.	55½	40	50½	− ½

Railway and other Reports

West of India Portuguese Guaranteed Railway Co. Ltd.—Gross earnings for the year 1940 were Rs.21,91,134 (Rs.28,17,675), expenditure Rs.12,45,331 against Rs.16,76,101, leaving net earnings Rs.9,45,803 (Rs.11,41,574), yielding £63,054, against £76,105. Dividend for the half-year is 2½ per cent., plus a bonus of ¾ per cent., making 3¼ per cent., against 3⅜ per cent.

Crosville Motor Services Limited.—Traffic receipts and other revenue to April 30, 1941, after tax, were $1,380,395 (£1,292,684). Balance, after expenses, depreciation, etc., is £82,947 (£143,137). The ordinary dividend for the year is again 8 per cent., requiring £88,000. Nothing, against £30,000, is transferred to reserve, and the carry forward is £54,264 (£59,317). The company is a subsidiary of L.M.S.R., G.W.R., and Tilling & British Automobile Traction Limited jointly.

Gloucester Railway Carriage & Wagon Co. Ltd.—For the year to May 31 last trading profit amounted to £109,395 (£206,732) and investment income and transfer fees to £3,620 (£9,062). Net profit, after providing for directors' fees, wagon rent, debenture interest, depreciation, and £3,278 (nil) under the War Damage Act, was £64,229 (£168,227). A sum of £35,000 (£112,000) is set aside for taxation, and the directors recommend a dividend for the year of 7½ per cent. (5 per cent., making 10 per cent.), the transfer of £10,000 (£13,559) to reserve, and a carry forward of £14,393, compared with £14,852 brought in, which included £1,313 adjustment of tax on dividend.

General Electric Co. Ltd.—Profits for the year to March 31, 1941, are down from £1,892,994 to £1,722,643, and the difference is attributed to the provision for E.P.T. at 100 per cent., against 60 per cent. Depreciation takes £444,598, provision for war contingencies £50,000, pension fund £69,313, and income tax reserve £650,000 (£540,000). The ordinary dividend is again 10 per cent., but the bonus is cut from 10 per cent. to 7½ per cent. making a total distribution of 17½ per cent. against 20 per cent. The carry forward is £812,791 (£811,931),

British Timken Limited.—Net profit for the year 1940 amounted to £114,400, which compares with £115,619. A transfer of £65,000 (£55,000) is made to taxation reserve, and one of £20,000 to contingencies. The ordinary dividend is again 15 per cent., less tax, but is on a larger capital, as 40,000 shares were issued twelve months ago. The carry forward is £25,710, against £26,310 brought in.

Callender's Cable & Construction Co. Ltd.—Net profit for the year 1940 amounted to £428,774, against £440,908. Deducting £80,000 (£70,000) for depreciation, £69,500 for debenture interest and preference dividends (same), leaves £279,274, to which has to be added £398,369 brought forward, making a total of £677,643 (£691,956). The ordinary dividend of 15 per cent. (same) takes £168,587, £6,538 (nil) is transferred to reserve account, and £125,000 (same) to reserve for equalisation of dividends, or for war contingencies, leaving £377,518 to be carried forward.

Edgar Allen & Co. Ltd.—Accounts for the year to March 31, 1941, show a working profit of £321,739, or £107,169 more than for 1939-40. Taxation absorbs £263,000 (£125,000), A.R.P. expenditure £10,000 (£6,000), and war damage premiums £4,300 (nil), and there is a credit balance of £44,439. Ordinary dividend is again 12½ per cent., and £20,000 is again transferred to reserve. The carry forward is £36,906 (£39,048).

George Spencer Moulton & Co. Ltd.—Net profits for the year 1940, after providing £46,500 (against £15,250) for taxation, amounted to £17,721, against £5,237. A sum of £10,000 (against nil) is allocated to reserve, and the ordinary dividend for the year is 5 per cent. (against 2½ per cent.), leaving £22,802 to be carried forward (£21,531).

Chloride Electrical Storage Co. Ltd.—For the year ended March 31, 1941, the net profit was £277,941 (£273,942). Allocation to reserve is £75,000 (same), and to pensions, etc., £32,000 (£22,000). The 10 per cent. dividend and the 5 per cent. bonus are the same as for the previous year, and the carry forward is £83,104, against £81,581 brought in.

Vickers Limited.—The following interim dividends have been declared: 2½ per cent. actual, less tax, on the preferred 5 per cent. stock; 2½ per cent. actual, less tax, on the 5 per cent. preference stock; 2½ per cent. actual, free of tax up to 6s. in the £ on the cumulative preference stock. Payment will be made on August 22.

Midland Bank Limited.—The directors of the Midland Bank Limited announce an interim dividend for the half year ended June 30 last at the rate of 8 per cent. actual, less tax (same).

Kendall & Gent (1920) Limited.—An interim dividend of 5 per cent. is to be paid (same).

Contracts and Tenders

The Brazilian Steel Company

By the formation of the Brazilian Steel Company—briefly reported in THE RAILWAY GAZETTE dated February 7 (page 159)—it is hoped that it will be possible for the vital re-equipment and extension of railways, described on page 135 in that same issue, to enter upon an era of progress long overdue.

The new plant at Volta Redonda in the State of Rio de Janeiro will, in the first instance, cover an area of 3 sq. km. whereon coke-ovens, furnaces, works, offices, raw-material depots, and railway sidings will be built. It is calculated that more than 120,000 tons of structural material and plant will be imported from the U.S.A. at a cost of 300,000 contos of reis. The purchases will be made in the U.S.A. through the Export & Import Bank, which has already granted a credit of $20,000,000 to finance the undertaking. The Brazilian Steel Company will have to provide for the payment of interest expected to reach a total of 200,000 contos of reis up to the time when the works arrive at the producing stage.

Messrs. Arthur G. Mckee & Co., Consulting Engineers, Cleveland, Ohio, are in charge of the plans for the works, which are being designed for an estimated yearly production of 335,000 tons of steel in the form of rails and accessories, ingots, girders, and steel plate for naval construction, all of which have to be imported at present. The plant has been designed so that an increased production of 50 per cent. will be relatively easy when required.

The site for the steel works is close to Volta Redonda station and lies between the Central Railway line and the river Parahyba, at a distance of 145 km. from Rio de Janeiro, and 354 km. from San Paulo, and is situated, therefore, between the two largest consuming centres, with every facility for quick and economical distribution. The locality also offers the advantages of direct transport of ore from the mines in Minas Geraes and also of coal unloaded at the port of Rio de Janeiro. Iron ore, calcareous minerals, and dolomite, will all be transported by the Central Railway whose lines traverse areas in Minas Geraes reputed to contain almost inexhaustible supplies. Coal for the manufacture of coke will also be carried by the Central Railway from Rio de Janeiro over the 145 km. of line which will, however, be electrified before the steel works are completed. Coke will be obtained from a mixture of national coal from Santa Catarina and that from abroad.

Class I railways in the United States of America on June 1, 1941, had 65,047 freight wagons on order. The Association of American Railroads, in announcing this, states that it is the largest number on order at any time since 1924; it compares with 15,039 freight wagons at a similar date last year. Freight wagons for which orders had been placed on June 1 last included 39,739 box wagons, 22,264 coal wagons, 1,349 flat wagons, 1,220 refrigerator wagons, and 476 miscellaneous wagons.

On June 1 Class I railways also had on order 517 locomotives of which 231 were steam, and 286 electric and diesel. This compares with the total of 129 on June 1, 1940, of which 88 were steam and 41 electric and diesel.

The London office of the Brush Electrical Engineering Co. Ltd. and of Brush Coachwork Limited have been moved from 88, Kingsway, to Bush House, North West Wing, Aldwych, London, W.C.2; Telephone number: Temple Bar 6262.

Railway Stock Market

Although business in Stock Exchange markets has been less active, and best prices recorded in the past few days were not held, many security values were again higher on balance. Sentiment was affected by the news from the Far East, but the dominating market influence was the continued willingness of investors to be prepared to take more than a short view. There are divergent opinions as to whether the undercurrent of optimism in the market is justified. Nevertheless, it is clear that the higher prices made recently have induced very little selling, and scarcity of stock has again been reflected by firmness in the quotations for many classes of securities. British Funds were inclined to ease on the decision to discontinue the issue of 2½ per cent. National War Bonds, 1946-48; but a firm undertone was resumed, the belief having gained ground that this may be an interim measure pending a new Government loan later in the year. Following their recent strong advance, home railway stocks became much less buoyant. Hopeful views remain current as to the new financial arrangements with the Government, but it is realised that pending the details of the latter, there is very little on which to assess the value of the junior issues. Assuming that dividends on the latter at last year's rates will be guaranteed until after the war, a further good rise in prices would probably be justified. On the other hand, there is wider realisation that, in some instances, yields at current prices would be none too generous assuming that future dividends do not exceed the minimum rates guaranteed under the 1940 agreement. If, as is generally expected, the trend to higher prices in Government securities is continued, enhanced values will also tend to rule for other good class investments, and quite attractive yields are still obtainable on debentures, guaranteed, and preference stocks of the main line railways. Yields of 5 per cent. and over are shown by Great Western preference, Southern preference and L.N.E.R. second guaranteed, and L.M.S.R. senior preference yields over 6 per cent. L.M.S.R. 4 per cent. debentures, which can be bought at around 102, also return a good yield, bearing in mind their excellent investment merits.

Very little profit-taking has been in evidence among the junior home railway issues, despite their recent advance, and although most movements were against holders, they were moderate on balance. Buying this week appeared to be selective and centred more on L.M.S.R. 1923 preference and L.N.E.R. first preference, which yield nearly 9 per cent. and dividends of which can reasonably be expected to remain covered with a favourable margin. These two stocks would still appear to be undervalued, particularly in relation to Southern preferred and deferred, which show only slightly higher yields. As compared with a week ago, L.M.S.R. 1923 preference has improved from 44 to 45¼ at the time of writing; and L.N.E.R. first preference from 44 to 45. Southern deferred was fractionally lower at 12½, but the preferred was slightly better at 55¾. Southern preference at 97½ was the same as a week ago. Moreover, in other directions, Great Western preference remained at par, and the ordinary stock was 37¼, compared with 37½ a week ago. L.M.S.R. ordinary was fractionally lower at 14½, as was L.N.E.R. second preference at 16¼. Among other issues of the last-named company, the first and second guaranteed were maintained at 85 and 73 respectively. More attention was given to London Transport "C" stock, which moved up from 36½ to 39.

There was a better tendency in Argentine railway securities which extended from debentures to ordinary stocks, and gains were fairly well maintained, despite the easier conditions that have developed on the Stock Exchange at the time of writing. It is realised that results for the financial year ended June 30 will make a depressing showing, but sentiment has been assisted by hopes that the recent improving trend in traffics may be continued. Nevertheless, the main factors influencing market hopes are long-term, rather than short-term, and are based on the large expansion in demand for Argentine produce that can be expected after the war.

Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

	Railways	Miles open 1940-41	Week Ending	Traffic for Week: Total this year	Traffic for Week: Inc. or Dec. compared with 1940	No. of Weeks	Aggregate Traffics to Date: Totals: This Year	Aggregate Traffics to Date: Totals: Last Year	Aggregate Traffics to Date: Increase or Decrease	Shares or Stock	Prices: Highest 1940	Prices: Lowest 1940	Prices: Aug. 8, 1941	Prices: Yield % (See Note)
				£	£		£	£	£					
South & Central America	Antofagasta (Chili) & Bolivia	834	3.8.41	27,580	+ 10,510	31	571,670	560,430	+ 11,240	Ord. Stk.	11½	3½	6½	Nil
	Argentine North Eastern	753	2.8.41	ps. 210,800	+ ps.28,700	5	ps. 968,000	ps. 871,600	+ ps.96,400	,,	3¾	1	2	Nil
	Bolivar	174	July, 1941	3,795	— 255	30	26,867	28,630	— 1,763	6 p.c. Deb.	6½	5	6½	Nil
	Brazil	—	—	—	—	—	—	—	—	Bonds	8	5	5	Nil
	Buenos Ayres & Pacific	2,801	26.7.41	ps.1,370,000	+ps.202,000	4	ps.5,447,000	ps. 4,416,000	+ps.1,031,000	Ord. Stk.	4½	1	3½	Nil
	Buenos Aires Central	190	—	—	—	—	—	—	—	—	—	—	—	—
	Buenos Ayres Great Southern	5,082	26.7.41	ps.2,031,000	+ps.104,000	4	ps.7,445,000	ps. 7,654,000	— ps. 209,000	Ord. Stk.	10⅜	3	7½	Nil
	Buenos Ayres Western	1,930	26.7.41	ps.752,000	+ps.106,000	4	ps. 2,892,000	ps. 2,492,000	+ ps. 400,000	,,	8⅜	2	4½	Nil
	Central Argentine	3,700	2.8.41	ps. 1,717,500	+ps.125,950	5	ps. 8,335,600	ps. 7,305,100	+ps.1,030,500	,,	8¾	2	4½	Nil
	Do.	—	—	—	—	—	—	—	—	Dfd.	4	¼	1½	Nil
	Cent. Uruguay of M. Video	972	26.7.41	20,744	+ 4,905	4	83,726	65,161	+ 18 565	Ord. Stk.	3¾	½	2½	Nil
	Costa Rica	188	May. 1941	14,582	— 2,700	48	166,752	193,339	— 26,587	Stk.	23½	14	14	14½
	Dorada	70	June, 1941	13,200	+ 300	26	75,300	72,000	+ 3,300	1 Mt. Db	99	97½	97	6 7/16
	Entre Rios	808	2.8.41	ps. 311,600	+ ps.36,700	5	ps. 1,449,000	ps. 1,257,700	+ ps.191,300	Ord. Stk.	4	¼	2	Nil
	Great Western of Brazil	1,016	2.8.41	7,600	+ 900	31	280,200	316,000	— 35,800	Ord. Sh.	4/-	1/-	7/16	Nil
	International of Cl. Amer.	794	June, 1941	$514,782	+ $50,639	26	$3,036,575	$3,305.093	— $268,518	—	—	—	—	—
	Interoceanic of Mexico	—	—	—	—	—	—	—	—	1st Pref.	9d.	9d.	¼	Nil
	La Guaira & Caracas	22¾	July, 1941	8,030	+ 1.855	30	43,245	45,615	— 2,370	—	6	4	—	—
	Leopoldina	1,918	26.7.41	26,488	+ 5,200	30	722,723	650,003	+ 72,720	Ord. Stk.	2 2/16	¼	1	Nil
	Mexican	483	31.7 41	ps. 466,700	— ps. 5,300	4	ps. 1,342,200	ps. 1,242,900	+ ps 99,300	,,	2/11½	7/16	⅜	Nil
	Midland of Uruguay	319	June, 1941	14,941	+ 4,304	52	151,105	131,660	+ 19,445	—	—	—	—	—
	Nitrate	386	31.7.41	9,807	+ 4,324	30	68,639	103.421	— 34,782	Ord. Sh.	2¾	1½	2½	5 7/16
	Paraguay Central	274	2.8.41	$3,319,000	— $1,594,000	5	$16,926,000	$20,867,000	— $3,761,000	Pr. Li. Stk.	41	36	32	9⅜
	Peruvian Corporation	1,059	July, 1941	65,550	+ 129	4	65,550	65,421	+ 129	Pref.	4	1	2	Nil
	Salvador	100	31 5.41	£11.180	+ £2,261	48	£751,256	£937,343	— £186,087	—	—	—	—	—
	San Paulo	153½	27.7.41	38,750	— 134	30	1,117,511	1,108,390	+ 9,121	Ord. Stk.	50	23	31½	6⅜
	Taltal	160	June, 1941	2,050	+ 1,220	52	32,595	29,590	+ 3,005	Ord. Sh.	15/1½	⅜	⅜	Nil
	United of Havana	1,346	2.8.41	19,439	+ 779	5	91.424	83,369	+ 8,055	Ord. Stk.	⅜	¼	1	Nil
	Uruguay Northern	73	June, 1941	1,127	+ 260	52	13,937	13,222	+ 715	—	—	—	—	—
Canada	Canadian National	23,579	31.7.41	1,769,852	+ 316,387	30	33,474,186	27,215,317	+ 6,258,869	—	—	—	—	—
	Canadian Northern	—	—	—	—	—	—	—	—	Perp. Dbs.	86	68	91½	4⅜
	Grand Trunk	—	—	—	—	—	—	—	—	4 p.c. Gr.	105¾	95 11/16	101¼	3 11/16
	Canadian Pacific	17,153	31.7.41	1,345,400	+ 274,800	30	23,839,800	18,137,600	+ 5,702,200	Ord. Stk.	9 7/16	4⅞	9	Nil
India†	Assam Bengal	1,329	—	—	+ —	—	—	—	—	Ord. Stk.	99¾	71	100	3
	Barsi Light	202	10.5.41	5,850	+ 2,550	6	25,537	17,220	+ 8,317	—	—	—	—	—
	Bengal & North Western	2,086	30.6.41	263,700	+ 21,548	13	808,125	837,801	— 29,676	Ord. Stk.	283	234	302	5⅜
	Bengal-Nagpur	3,269	31.5.41	283,725	+ 21,334	9	1,509,300	1,552,418	— 43,118	,,	96	83⅞	100½	4
	Bombay, Baroda & Cl. India	2,986	31.7.41	343.275	+ 108,750	18	3,556,200	3.386,400	+ 169,800	,,	108	99	108½	5½
	Madras & Southern Mahratta	2,939	30.4.41	196,125	— 4,637	4	586,500	575,869	+ 10,631	,,	104	97⅞	102½	7 7/16
	Rohilkund & Kumaon	571	30.6.41	63,975	+ 1,524	13	192,900	202,019	— 9,119	,,	284	238	299	5⅜
	South Indian	2,500	20.4.41	127,626	+ 2,675	3	269,156	242,933	+ 26,223	,,	93¾	83	97½	4⅛
Various	Beira	204	May 1941	79,211	—	35	574,352	—	—	—	—	—	—	—
	Egyptian Delta	610	20.5.41	6,428	+ 1,837	6	25,728	19,436	+ 6,292	Prf. Sh.	7/10½	⅜	⅜	Nil
	Kenya & Uganda	1,625	—	—	—	—	—	—	—	—	—	—	—	—
	Manila	—	—	—	—	—	—	—	—	B. Deb.	53	44½	61½	5 11/16
	Midland of W. Australia	277	Mar. 1941	14,597	+ 2.092	39	134,201	115,376	+ 18,825	Inc. Deb.	88	80	87½	6⅛
	Nigerian	1,900	31.3.41	100,291	+ 53,330	52	2,494,207	2,108,686	+ 385,521	—	—	—	—	—
	Rhodesia	2,442	May 1941	479,908	—	35	3,763,016	—	—	—	—	—	—	—
	South Africa	13,291	21.6 41	765,843	+ 78.411	12	8,576,210	7,666,622	+ 909,588	—	—	—	—	—
	Victoria	4,774	Apl. 1941	999,841	+ 183,876	44	—	—	—	—	—	—	—	—

Note. Yields are based on the approximate current prices and are within a fraction of ⅛ Argentine traffics are given in pesos
† Receipts are calculated @ 1s. 6d. to the rupee